



---

# NIDRR Program Directory



Produced by the National Rehabilitation  
Information Center

A project funded by The National Institute on Disability and  
Rehabilitation Research, project number ED-08-CO-0095.



# **National Institute on Disability and Rehabilitation Research Program Directory 2009**

---

Produced by the  
National Rehabilitation Information Center  
Landover, MD

Mark X. Odum  
Director

Jessica H. Chaiken  
Media and Public Education Manager

Catherine E. Graves  
Media Specialist

The full text of this public domain publication is available at the NARIC's home page at [www.naric.com](http://www.naric.com) and in alternate formats upon request. For more information, please contact us at:

NARIC  
8201 Corporate Drive, Suite 600  
Landover, MD 20785  
800/346-2742 or 301/459-5900 (Voice)  
or 301/459-5984 (TTY).

# Contents

---

Introduction .....	i
<i>Research and Development:</i>	
Employment.....	1
Health and Function.....	2
Technology for Access and Function .....	3
Participation and Community Living .....	4
Disability Demographics .....	5
<i>Knowledge Translation</i>	
Knowledge Translation.....	6
ADA Technical Assistance .....	7
<i>Capacity Building</i>	
Capacity Building for Rehabilitation Research Training .....	8
<i>Indices</i>	
Subject .....	A
Grantees .....	B
Project by State .....	C
Principal Investigators .....	D
Projects by Program Type .....	E
Model System and Collaborative Projects.....	F



# Introduction

---

The mission of NIDRR is to generate new knowledge and promote its effective use to improve the abilities of people with disabilities to perform activities of their choice in the community, and also to expand society's capacity to provide full opportunities and accommodations for its citizens with disabilities. NIDRR conducts comprehensive and coordinated programs of research and related activities to assist in the achievement of the full inclusion, social integration, employment, and independent living of people with disabilities. This edition of the NIDRR Program Directory lists all projects funded by NIDRR during the 2009 fiscal year.

The contextual paradigm of disability and rehabilitation research, originally described in NIDRR's Long Range Plan, 1999-2003, continues to frame the NIDRR research agenda. This paradigm overcomes the limitations imposed by a medical model of disability. This paradigm of disability maintains that "disability is a product of the interaction between characteristics of the individual (e.g., conditions or impairments, functional status, or personal and social qualities) and the characteristics of the natural, built, cultural, and social environments." (NIDRR Long-Range Plan 1999-2003.)

## **NIDRR's Research Program**

Under the Long Range Plan 2005-2009, NIDRR-funded research activities fall within three strategic arenas: Research and Development, Capacity Building, and Knowledge Translation. Most NIDRR grantees are universities or organizations of rehabilitation or related services. NIDRR's largest funding programs are the Rehabilitation Research and Training Centers (RRTCs), the Model Systems, and Rehabilitation Engineering Research Centers (RERCs). NIDRR also makes awards through other program mechanisms, including ADA Technical Assistance Projects, Advanced Rehabilitation Research Training Projects, Disability and Rehabilitation Research Projects, Mary E. Switzer Research Fellowships, NIDRR Contracts, NIDRR Scholars, and Small Business Innovative Research. Program descriptions are provided below.

### *ADA Technical Assistance Projects*

NIDRR funds a network of Disability and Business Technical Assistance Centers (DBTACs) to provide information, training, and technical assistance related to the American with Disability Act (ADA) to businesses, agencies, and the public. Presently, ten regional DBTACs and one Coordination, Outreach, and Research Center (CORC) are funded under this program.

### *Advanced Rehabilitation Research Training Projects*

The Advanced Rehabilitation Research Training (ARRT) Program provides research training and experience at an advanced level to individuals with doctorates, or similar advanced degrees, who have clinical or other relevant experience. ARRT projects train rehabilitation researchers, including researchers with disabilities, with particular attention to research areas that support the implementation and objectives of the Rehabilitation Act of 1973, as amended (Act), and that improve the effectiveness of services authorized under the Act.

Grants are made to institutions to recruit qualified persons, and to provide a training program that includes didactic and classroom instruction, is multidisciplinary, emphasizes scientific research methodology, and may involve collaboration among institutions

### *Disability and Rehabilitation Research Projects*

The Disability and Rehabilitation Research Projects (DRRP) program funds projects with special emphasis on research, demonstration, training, dissemination, utilization, and technical assistance. Projects may include combinations of these activities. True to the mission of NIDRR, these projects may develop methods, procedures, and rehabilitation technology to assist in achieving the full inclusion and integration into society, employment, independent living, family support, and economic and social self-sufficiency of individuals with disabilities, especially individuals with the most significant disabilities, or to improve the effectiveness of services authorized under the Rehabilitation Act.

### *Mary E. Switzer Research Fellowships*

Research Fellowships, named for the late Mary E. Switzer, give individual researchers the opportunity to develop new ideas and gain research experience. There are two levels of fellowships: Distinguished Fellowships and Merit Fellowships. Distinguished Fellowships go to individuals who have seven or more years of research experience in subject areas, methods, or techniques relevant to rehabilitation research and must have a doctorate, other terminal degree, or comparable academic qualifications. Merit Fellowships are given to individuals who have either advanced professional training or independent study experience in an area that is directly pertinent to disability and rehabilitation but who do not meet the qualifications for Distinguished, usually because they are in earlier stages of their careers. Fellows work for one year on an independent research project of their design.

### *Model Systems*

NIDRR administers programs that have become world-renowned model systems of care for persons with spinal cord injuries, burns, and traumatic brain injuries. The Model Systems establish innovative projects for the delivery, demonstration, and evaluation of comprehensive medical, vocational, and other rehabilitation services. The work of the Model Systems begins at the point of injury and ends with successful re-entry into full community life. These projects collect and contribute data on patient characteristics, diagnoses, causes of injury, interventions, outcomes, and costs to a uniform national database; participate in collaborative research with other Model System centers; and coordinate research efforts with other related grant recipients. In 2006, NIDRR funded a coordinating knowledge translation center for all three Model System types.

### *NIDRR Scholars*

The NIDRR Scholars Program is designed to provide internship opportunities in disability and rehabilitation research for undergraduate students with disabilities. Each year, NIDRR provides funding for this program to projects and centers. The intent of the program is to enable students to gain practical experience in ongoing research, thereby preparing them for careers in disability and rehabilitation research. The duration of the internship is one semester and the students are required to work 20 hours per week.

### *NIDRR Contracts*

Through its contracts, NIDRR seeks improved methods, systems, products, and practices to add to its work. The contracts are for specific activities related to management, research, and information dissemination.

### *Rehabilitation Engineering Research Centers*

Rehabilitation Engineering Research Centers (RERCs) conduct programs of advanced research of an engineering or technical nature designed to apply advanced technology, scientific achievement, and psychological and social knowledge to solve rehabilitation problems and remove environmental barriers. Each center is affiliated with one or more institutions of higher education or nonprofit organizations. The RERCs' work in a rehabilitation setting provides an environment for cooperative research and the transfer of rehabilitation technologies into rehabilitation practice. Involved at both the individual and systems levels, RERCs seek to find and evaluate the newest technologies, products, and methods that ultimately can benefit the independence of persons with disabilities and the universal design of environments for all people of all ages. The centers also exchange technical and engineering information worldwide and improve the distribution of technological devices and equipment to individuals who need them.

### *Rehabilitation Research and Training Centers*

NIDRR's Rehabilitation Research and Training Centers (RRTC) conduct coordinated and integrated advanced programs of research targeted toward the production of new knowledge, which may improve rehabilitation methodology and service delivery systems, alleviate or stabilize disabling conditions, or promote maximum social and economic independence for persons with disabilities. Operated in collaboration with institutions of higher education or providers of rehabilitation or other appropriate services, RRTCs serve as centers of national excellence in rehabilitation research. Also, they are national or regional resources for research information for individuals with disabilities and the parents, family members, guardians, advocates, or authorized representatives of the individuals. These centers also conduct related training programs, including graduate, pre-service and in-service training. The centers also disseminate and promote the utilization of research findings.

### *Small Business Innovation Research*

Small Business Innovation Research (SBIR) grants help support the production of new assistive and rehabilitation technology. This two-phase program takes a product from development to market readiness.

### **NARIC and the *NIDRR Program Directory***

The *Program Directory* is compiled by the National Rehabilitation Information Center (NARIC). NARIC functions as a specialized library, providing the public with information on and referral services to help locate disability and rehabilitation research and services. Since 1977, NARIC has been the primary source of rehabilitation and disability information generated by NIDRR funds, with special priority services to NIDRR staff and NIDRR-funded project staff.

NARIC also produces REHABDATA, an index of disability and rehabilitation literature produced by NIDRR grantees as well as commercial publishers. Grantees submit copies of NIDRR-supported research products to NARIC and they are added to the reference collection and REHABDATA database. Information about holdings is available online at <http://www.naric.com>.

Neither NARIC nor NIDRR assumes liability for the *Directory's* contents or the use thereof. NARIC does not evaluate or certify the programs or products of the organizations listed in the *Directory*.

This *Directory* is not intended for use as a fiscal document to show how NIDRR funds are allocated; its purpose is to display the range of programs that NIDRR supports. This listing is current as of December 10, 2009. This directory may include projects that have passed the indicated extension date.

NARIC operates under U.S. Department of Education contract ED-08-CO-0095.

# Employment

---

NIDRR’s employment research focuses on the lifelong challenges to and opportunities presented by transitions in employment experienced by people with disabilities. Employment research addresses methods to integrate the unique needs of employers and disability populations to improve employment outcomes across the life span. NIDRR’s research agenda in the area of employment is designed to strengthen the scientific basis of disability and rehabilitation-related research and practice by increasing the availability of validated theories, measures and methods to: (1) improve measurement, data sources, and estimates; and (2) enhance identification, evaluation, and prediction of the factors that facilitate successful labor force participation and work-related transitions across the life span. This research agenda is also designed to strengthen the scientific basis of disability-related employment policy, practice, and research by providing valid and reliable information and analyses designed to: (1) improve understanding of employment trends; individual labor force participation; and school-to-work transitions; and (2) enhance knowledge of the broader societal developments that affect employment opportunities and outcomes across the life span.

## Contents

Rehabilitation Research and Training Centers (RRTCs) .....	3
Disability and Rehabilitation Research Projects .....	14
Field Initiated Projects (FIPs) .....	21



Rehabilitation Research and Training Centers (RRTCs)  
Massachusetts

**Rehabilitation Research and Training Center for Vocational  
Rehabilitation Research**

---

University of Massachusetts Boston  
Institute for Community Inclusion  
100 Morrissey Boulevard  
Boston, MA 02125-3393  
Susan.Foley@umb.edu

[www.communityinclusion.org/project.php?project\\_id=50](http://www.communityinclusion.org/project.php?project_id=50)

**Principal Investigator:** Susan Foley, PhD

**Public Contact:** 617/287-4317

**Project Number:** H133B070001

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Phillip Beatty, PhD

**NIDRR Funding:** FY 07 \$649,999; FY 08 \$649,999; FY 09 \$650,000

**Abstract:** The RRTC for Vocational Rehabilitation Research provides a comprehensive description of the vocational rehabilitation (VR) program, collects best practices, and addresses the need for information that will assist administrators, researchers, and advocates to make data driven policy and practice decisions. The RRTC (1) conducts an exhaustive, systematic research literature search in Year 1, modeled after the Campbell Collaboration reviews, to provide a comprehensive platform for future research activities of the RRTC and for other researchers and policy-makers; (2) collects descriptive data from a wide range of sources including existing administrative datasets and official documents, and launches the RRTC survey of state agencies for vocational rehabilitation, mental retardation/developmental disability, mental health, and welfare, and community rehabilitation providers in Years 2 and 3 to develop state-by-state profiles of employment services and the context of VR service delivery; (3) interviews VR directors of all 80 VR agencies in Years 2 and 3 to collect descriptive information about key characteristics related to operational and programmatic decisions, policies, and practices; (4) uses the Delphi Method in Years 3 through 5 to identify, evaluate, and describe best practices in the implementation of (a) Order of Selection policies and the prioritization of individuals with the most significant disabilities for VR services, (b) employment services for individuals with developmental disabilities, and (c) employment services for individuals with mental illnesses; (5) institutes a training and technical assistance agenda that uses Communities of Practice mechanisms to create interactive participant-driven opportunities for translation, information sharing, and policy development; and (6) widely disseminates products, curricula, and knowledge throughout the vocational rehabilitation system, employment services system, and to a wide array of disability and advocacy organizations. The RRTC develops a knowledgebase on VR that informs policy and practice at the federal, state, and local levels, encourages data-based decision-making, results in the development of a research base that future investigators can use for analyzing the consequences and outcomes of variations in State VR agencies' internal arrangements and operations, documents best practices in detail, identifies their key

features, and investigates their transferability into other contexts. The RRTC is a partnership of the Institute for Community Inclusion at the University of Massachusetts Boston, the Center for the Study and Advancement of Disability Policy, and InfoUse, a woman-owned business.

Rehabilitation Research and Training Centers (RRTCs)  
Massachusetts

## Improved Employment Outcomes for Individuals with Psychiatric Disabilities

---

Boston University  
Center for Psychiatric Rehabilitation  
940 Commonwealth Avenue West  
Boston, MA 02215-1203  
mfarkas@bu.edu; erogers@bu.edu

**Principal Investigator:** Marianne Farkas, ScD; E. Sally Rogers, ScD

**Public Contact:** Marianne Farkas, ScD 617/353-3549; Fax: 617/353-7700

**Project Number:** H133B090014

**Start Date:** October 01, 2009

**Length:** 60 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 09 \$849,535

**Abstract:** This project develops and tests innovative interventions, identifies barriers to and facilitators of effective partnerships among providers of employment services, and develops and tests adaptations of evidence-based employment interventions for individuals with psychiatric disabilities from traditionally underserved groups. Additionally, this project incorporates research findings into practice and policy by developing, evaluating, and implementing strategies to increase utilization of research findings; and conducts training, technical assistance, and dissemination activities (TDTA) with the same purpose. TDTA projects are organized into programmatic areas which together focus on the development and implementation of practices and services to improve employment outcomes. Using the knowledge transfer framework, TDTA projects produce usable, new technologies for improving employment outcomes.

Rehabilitation Research and Training Centers (RRTCs)  
Massachusetts

## Learning and Working During the Transition to Adulthood

---

University of Massachusetts Medical School  
CMHSR/Department of Psychiatry  
UMMS 55 Lake Avenue  
Worcester, MA 01655  
maryann.davis@umassmed.edu

**Principal Investigator:** Maryann Davis, PhD  
**Public Contact:** 508/856-8718; Fax: 508/856-8700

**Project Number:** H133B090018

**Start Date:** October 01, 2009

**Length:** 60 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 09 \$800,398

**Abstract:** This project focuses on school-to work transitions and develops an integrated research program examining this developmental stage for individuals with severe psychiatric disabilities. The transition to adulthood is a critical life stage when the learning that occurs, both in school and in the larger world, lays an important foundation for individuals' future work life. Severe psychiatric disability issues can disrupt the school-to work pathway and contribute to school dropout, psychiatric hospitalization, homelessness, and jail. The Learning and Working During the Transition to Adulthood Research and Training Center provides national leadership to researchers, policymakers, practitioners, and consumers and their families on the school to work transition of transition-age youth and young adults with serious mental health conditions. The Center develops and translates knowledge from state-of-the-art rigorous research on education and work experiences for 14-30 year olds. The research is informed by consumer and family input and is carried out in real world settings. This project contributes to new knowledge about interventions for this population who are from disadvantaged backgrounds, and improves coordination between child and adult mental health services. The translation of this knowledge speeds capacity building for service providers and the movement of findings into practice and policy.

Rehabilitation Research and Training Centers (RRTCs)  
Montana

## Rehabilitation Research and Training Center on Disability in Rural Communities

---

University of Montana  
The University of Montana Rural Institute:  
A Center for Excellence in Disability Research, Education and Services  
52 Corbin Hall  
Missoula, MT 59812-7056  
rural@ruralinstitute.umt.edu  
rtc.ruralinstitute.umt.edu

**Principal Investigator:** Tom Seekins, PhD 406/243-2654

**Public Contact:** Diana Spas 888/268-2743 (V); 406/243-5467 (V); 406/243-4200 (TTY); Fax: 406/243-2349

**Project Number:** H133B030501

**Start Date:** December 01, 2002

**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 03 \$600,000; FY 04 \$600,000; FY 05 \$600,000; FY 06 \$600,000; FY 07 \$600,000; FY 08 (No-cost extension through 11/30/2008)

**Abstract:** The research conducted by this project improves the employment status of people with disabilities in the rural US, enhances their ability to live independently, and advances the science of rural disability studies. Four core areas comprise 11 research projects in rural employment and economic development, rural health and disability, rural community transportation and independent living, and rural policy foundations. Projects include: (1) develop scientific methods to measure how rural environments influence an individual's community participation; (2) collaborate with very small rural businesses to employ people with disabilities; (3) improve rural transportation options; and (4) create programs to prevent or improve secondary conditions. Other projects explore ways for new partners, including faith-based organizations, to be involved in improving rural services. A training program disseminates research findings, trains students, and sparks the creative engagement of policymakers and social advocates. The innovative STATE (Same-Time Availability to Everyone) policy requires that the project provide standard print publications to the general public only when at least two alternative formats are also available to individuals with disabilities.

Rehabilitation Research and Training Centers (RRTCs)  
Montana

## Rehabilitation Research and Training Center on Disability in Rural Communities

---

University of Montana  
The University of Montana Rural Institute:  
A Center for Excellence in Disability Research, Education and Services  
52 Corbin Hall  
Missoula, MT 59812-7056  
rural@ruralinstitute.umt.edu  
rtc.ruralinstitute.umt.edu

**Principal Investigator:** Tom Seekins, PhD 406/243-2654

**Public Contact:** Nancy Arnold 888/268-2743 (V); 406/243-5467 (V); 406/243-4200 (TTY); Fax:  
406/243-2349

**Project Number:** H133B080023

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Joyce Y. Caldwell

**NIDRR Funding:** FY 08 \$850,000; FY 09 \$850,000

**Abstract:** Nearly 20 percent of the 56 million Americans living in rural areas live with a disability. Compared to their urban counterparts, rural Americans with disabilities experience higher unemployment and poorer health. The RTC: Rural at The University of Montana conducts research that advances a science of rural disability and rehabilitation, improves the health of rural Americans with disabilities, and increases their opportunities for employment and community integration. The research and training program provides contextually appropriate, evidence-based solutions that rely on resources available in most rural communities, while respecting their diversity and values. The project: (1) conducts detailed statistical analyses of state Vocational Rehabilitation (VR) data to identify promising, evidence-based rural service practices; (2) develops and evaluates telecommunications protocol for providing rural VR services; (3) conducts a longitudinal study to determine why rural VR clients might exit services prematurely, and to evaluate retention strategies; (4) evaluates rural health promotion strategies that could lead to improved employment outcomes; (5) conducts a randomized controlled trial to evaluate ways to improve rural consumers' use of health care services; (6) conducts a randomized controlled trial to evaluate a mental health peer support model for rural individuals with mobility or sensory impairments; and (7) identifies strategies to improve rural transportation. The knowledge translation program disseminates research findings and sparks the use of evidence-based rural practices by policy makers, advocates, service providers, and persons with disabilities. The project web site, which is a central component of the dissemination program, includes the first rural disability "wiki," building a rural disability knowledge base. The project includes three focused training initiatives: (1) promoting economic development in rural southwest Texas; (2) facilitating linkages between Utah Small Business Development Centers and VR services; and (3) implementing the Living Well with a Disability health promotion program in rural South Carolina. The project also includes an innovative, web-based state-of-the-science conference on rural disability and rehabilitation.

Rehabilitation Research and Training Centers (RRTCs)  
New York

**Rehabilitation Research and Training Center on Employment Policy  
and Individuals with Disabilities**

---

Cornell University  
Employment and Disability Institute  
School of Industrial and Labor Relations  
201 ILR Extension Building  
Ithaca, NY 14853-3901  
smb23@cornell.edu  
www.ilr.cornell.edu/edi/p-eprrtc.cfm

**Principal Investigator:** Susanne Bruyère, PhD; Richard Burkhauser, PhD; David Stapleton, PhD  
**Public Contact:** Susanne Bruyère, PhD 607/255-9536 (V); 607/255-2891 (TTY); Fax: 607/255-2763

**Project Number:** H133B040013

**Start Date:** December 01, 2004

**Length:** 60 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 04 \$700,000; FY 05 \$700,000; FY 06 \$700,000; FY 07 \$700,000; FY 08 \$700,000

**Abstract:** The ultimate goal of the Employment Policy Rehabilitation Research and Training Center (EP-RRTC) is to increase the employment and economic self-sufficiency of people with disabilities and improve the quality of their lives. EP-RRTC's immediate purpose is to contribute to the success of the transition from caretaker policies to economic self-sufficiency policies. The immediate target population consists of people who influence disability policy: people with disabilities; federal, state, and local policymakers, administrators, and regulators; advocates; service providers; researchers and policy analysts; the media; employers, unions, insurers; and the general public. The ultimate target population is people with disabilities. Specific goals and objectives are: completion of new research activities that will generate knowledge about the effects of past disability policy and other factors on economic self-sufficiency, the impact of current and future initiatives designed to promote economic self-sufficiency, and/or the likely success of new policy options; completion of 20 publishable papers and companion policy briefs; training of consumers via 12 or more Washington-based Disability Policy Forums; training of 5 graduate students; participation in the 2008 conference of the Interagency Subcommittee on Employment; organization and delivery of disability policy research sessions at the Association of Public Policy Analysis and Management (APPAM) fall meetings, and technical assistance to consumers on policy research and evaluation methods and data. Project activities include writing briefs about the evaluations of promising policy innovations, consulting with a wide array of constituents to obtain feedback about an array of policy options that merit further consideration, and collaborating with SSA staff to develop state-level series on employment outcomes for Social Security Disability Insurance and Supplemental Security Income beneficiaries. Dissemination activities include: organization and participation in five disability policy research sessions at the 2007 fall conference of the APPAM and a reception for disability researchers; presentations in the 2008 Interagency Subcom-

mittee on Employment conference on interagency employment research; an accessible website for the dissemination of our outputs (e.g., policy briefs, reports, and materials); presentations and dissemination of outputs at conferences; and publication of the research papers in peer-reviewed journals.

**Rehabilitation Research and Training Centers (RRTCs)**  
New York

**Rehabilitation Research and Training Center on Employment Service  
Systems**

---

Hunter College of CUNY  
Research Foundation of CUNY  
695 Park Avenue  
New York, NY 10021  
joneill@hunter.cuny.edu  
www.essrtc.org

**Principal Investigator:** John O'Neill, PhD  
**Public Contact:** 212/772-5188; Fax: 212/650-3198

**Project Number:** H133B040014

**Start Date:** October 01, 2004

**Length:** 60 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 04 \$699,981; FY 05 \$699,973; FY 06 \$699,990; FY 07 \$849,982; FY 08 \$699,975; FY 09 (No-cost extension through 9/30/10)

**Abstract:** This Employment Service Systems Research and Training Center develops, enhances, and utilizes partnerships to improve the quality of employment services, opportunities, and outcomes for people with disabilities. Five research projects have been designed to meet this goal and examine partnerships across public agencies, between not-for-profit and public agencies, and between rehabilitation agencies and businesses. The Consortia for Employment Success (CES) creates and evaluates fully integrated disability service provider networks in three local communities. The CES increases access for people with disabilities to both effective, comprehensive placement services, and a well-managed and centralized employer network that will increase employment and career advancement opportunities for persons with disabilities. The Workplace Socialization Model (WPS) supplements the CES Model by focusing on job enhancement and retention. The WPS aims to extend the job tenure of employees with disabilities and other positive work outcomes including the employee's job satisfaction, organizational commitment, and level of work culture competency, as well as the employer's satisfaction with the employee's job performance. Identification of "Good Practices" within Vocational Rehabilitation (VR) is designed to identify a variety of good practices currently being used in the State-Federal VR system across the US that facilitate consumer access to services and enhance employment outcomes. Designing and Testing Comprehensive Employment Practice and Policy Initiatives within a Vocational Rehabilitation State Agency develops and tests a model that leads to enhanced employment outcomes. The model includes the "human capital" characteristics of persons with disabilities as well as what VR delivery systems add to these human capital factors to improve outcomes. A study of collaboration between Workforce Investment Act (WIA) partners in One-Stops collects data within 16 Iowa regions and correlates different levels of collaboration with customer satisfaction and employment outcomes.

Rehabilitation Research and Training Centers (RRTCs)  
Ohio

**Rehabilitation Research and Training Center on Substance Abuse,  
Disability, and Employment**

---

Wright State University  
School of Medicine  
Substance Abuse Resources and Disability Issues (SARDI)  
3171 Research Boulevard, Room 255  
Kettering, OH 45420  
mary.mcaweeney@wright.edu  
[www.med.wright.edu/citar/sardi/rrtc\\_about.html](http://www.med.wright.edu/citar/sardi/rrtc_about.html)

**Principal Investigator:** Dennis C. Moore, EdD

**Public Contact:** Mary McAweeney 937/775-1484 (V/TTY); Fax: 937/775-1495

**Project Number:** H133B040012

**Start Date:** December 01, 2004

**Length:** 60 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 04 \$699,998; FY 05 \$699,983; FY 06 \$699,981; FY 07 \$699,984; FY 08 \$699,989; FY 09 (No-cost extension through 11/30/2010)

**Abstract:** This RRTC builds on previous findings to positively impact persons with disabilities who also experience substance use disorders, as well as the service providers upon whom they depend. The highly integrated program of research addresses the following goals and objectives: (1) Promote widespread use of substance use disorder screening among persons with disabilities who utilize disability-related employment services. This is accomplished by developing and validating a new substance abuse screener called the "SASSI-VR". Following two stages of development and validation, the SASSI-VR is evaluated in three vocational rehabilitation (VR) programs on a statewide basis. (2) Conduct a randomized clinical trial of a model of supported employment, Individualized Placement and Support (IPS), to test its efficacy among persons with traumatic brain injury or other severe disabilities that also have a substance use disorder. The two trial sites are affiliated with rehabilitation programs in the Wright State and Ohio State medical schools. Utilization of the IPS model with the study populations holds tremendous potential for impacting services delivery for consumers who experience very low rates of employment. (3) Research policy and practices relative to their impact on VR services for persons with a disability and coexisting substance abuse. Serving as a critical complement to the first project, the roles of policies, statutes, guidelines, and VR service delivery practices will be investigated within the larger community of public agencies. (4) Investigate factors that specifically contribute to unsuccessful case closure among consumers of VR services. This component studies recent unsuccessful closures and their VR counselors, and the study has particular sensitivity to the role of "hidden" substance abuse among unsuccessful closures.

Rehabilitation Research and Training Centers (RRTCs)  
Virginia

**Rehabilitation Research and Training Center on Workplace Supports  
and Job Retention**

---

Virginia Commonwealth University  
1314 West Main Street, Box 842011  
Richmond, VA 23284-2011  
vbroke@vcu.edu  
www.worksupport.com

**Principal Investigator:** Paul Wehman, PhD

**Public Contact:** Valerie Brooke, Director of Training 804/828-1851 (V); 804/828-2494 (TTY); Fax:  
804/828-2193

**Project Number:** H133B040011

**Start Date:** November 01, 2004

**Length:** 60 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 04 \$699,981; FY 05 \$699,973; FY 06 \$699,990; FY 07 \$699,988; FY 08  
\$699,999; FY 09 (No-cost extension through 5/31/2010)

**Abstract:** The purpose of the RRTC on Workplace Supports and Job Retention is to study those supports which are most effective in the workplace for assisting persons with disabilities to maintain employment and advance their careers. Research includes two long-term prospective randomized experimental control research projects: (1) determining the efficacy of public/private partnerships, and (2) determining the efficacy of business mentoring and career based interventions with college students with disabilities. The RRTC is partnered with Manpower, Inc., several community rehabilitation programs, and the VCU Business Roundtable. Additional projects look at disability management practices, extended employment supports, job discrimination in employment retention, benefits planning and assistance, and workplace supports. These studies are done in conjunction with Equal Employment Opportunity Commission, the Society of Human Resource Professionals, and the U.S. Chamber of Commerce.

## Disability and Rehabilitation Research Projects

Arkansas

### Improve the Employment Outcomes for the Low Functioning Deaf (LFD) Population

---

University of Arkansas  
College of Education and Health Professions  
26 Corporate Hill Drive  
Little Rock, AR 72205  
dwatson@uark.edu

**Principal Investigator:** Douglas Watson, PhD

**Public Contact:** 501/686-9691; Fax: 501/686-9698

**Project Number:** H133A060044

**Start Date:** January 01, 2007

**Length:** 36 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 06 \$450,000; FY 07 \$450,000; FY 08 \$450,000

**Abstract:** This project conducts a program of theory-driven research to improve employment outcomes for the Low Functioning Deaf (LFD) population. The goals of the project are to: (1) develop a national profile of the state of the knowledge for services to persons who are LFD; (2) develop consensus on functional definitions of the target population using a concept mapping approach with knowledgeable providers who serve the population; (3) develop and validate a psychometrically sound tool to assess the functional characteristics of persons identified as LFD and to be used by partner states to develop a descriptive profile of the population; (4) replicate a systems level analysis of service delivery options available to the target population with key state partners; (5) assess barriers exhibited by LFD and pre-employment skills needed to enter the workforce; and (6) focus on best practices in job coaching to enhance workplace integration and job tenure. The success of the research and dissemination efforts is insured by inclusion of five state rehabilitation partners including providers, policy makers, and administrators from vocational rehabilitation, community service agencies, and school and community-based transition programs. The project makes use of long-established networks and collaboration with key federally-funded partners to facilitate dissemination of research-based knowledge to the field, leading to improvements in services for persons who are LFD.

**Disability and Rehabilitation Research Projects**  
Massachusetts

**Research and Technical Assistance Center on Vocational Rehabilitation  
Program Management**

---

University of Massachusetts Boston  
The Institute for Community Inclusion  
100 Morrissey Boulevard  
Boston, MA 02125  
ici@umb.edu  
www.communityinclusion.org

**Principal Investigator:** William E. Kiernan, PhD 617/287-4311

**Public Contact:** 617/287-4300; Fax: 617/287-4352

**Project Number:** H133A090002

**Start Date:** October 01, 2009

**Length:** 60 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 09 \$1,500,000

**Abstract:** This Center uses a three-stage process to develop and test a Vocational Rehabilitation (VR) Program Management Model. In the model development stage, project staff conduct research activities that build on of existing management models, integrate knowledge generated from other public systems and the private sector, and review evidence indicating associations between management practices and organizational outcomes. In the second stage, model verification and transfer, staff coordinate three research projects that emphasize the collection and evaluation of knowledge generated directly by the VR program, translate findings from the development phase into actionable management strategies, and finalize the VR Program Management Model. In the third stage, the management practices laboratory, the VR Program Management Model, its implementation, and validation are studied at seven Partnering State VR Agencies. An Advisory Committee ensures the VR Program Management Model is technically sound, relevant, and functional for the VR system. Training and technical assistance (TA) activities are integrated into the research agenda and designed for replication and distribution by the VR TA Network. Tools developed by the Center will promote effective and efficient VR management practices that ultimately lead to improved organizational performance and high quality employment outcomes for people with disabilities.

**Disability and Rehabilitation Research Projects**  
Mississippi

**Vocational Rehabilitation: Transition Services that Lead to Competitive  
Employment Outcomes for Transition-Age Individuals with Blindness  
or Other Visual Impairments**

---

Mississippi State University  
P.O. Box 6189  
Mississippi State, MS 39762  
lgoleman@colled.msstate.edu  
www.blind.msstate.edu

**Principal Investigator:** Brenda Cavenaugh 662/325-3728

**Public Contact:** Lynda Goleman 662/325-2001 (V); 662/325-8693 (TTY); Fax: 662/325-8989

**Project Number:** H133A070001

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Joseph A. DePhillips

**NIDRR Funding:** FY 07 \$450,000; FY 08 \$450,000; FY 09 \$450,000

**Abstract:** This project conducts scientifically based research on transition services that lead to competitive employment outcomes for transition-age individuals with blindness or other visual impairments. The project includes four major research projects and a plan of dissemination. Project 1 involves conducting an integrative (systematic) literature review to identify and synthesize research on services leading to successful employment and other postsecondary outcomes for blind youth. The review process is considered empirical research and is approached with the scientific rigor used when conducting primary research. Project 2 includes analysis of five national, cross-sectional, and longitudinal data sources to explore relationships between potential causes or influencing factors and positive transition outcomes of youth who are blind or visually impaired. Specialized approaches used in analysis of the longitudinal data sources allow opportunity for causal inferences. Project 3 uses qualitative and quantitative methods in the collection of data from a variety of sources (focus groups with rehabilitation professionals, teachers, post-secondary support service providers, SSA representatives, and others; interviews with consumers; VR case records). The research identifies factors that impact the employment status of transition-age youth. Project 4 involves using knowledge gained from Projects 1, 2, and 3 to identify and develop, demonstrate, and evaluate the effectiveness of two interventions—one targeting youth who are preparing to transition from high school to employment or college and the other targeting youth who are preparing to transition from college to employment. In implementing the plan of dissemination, a variety of methods help ensure that the quality, clarity, and accessibility of products are appropriate for the target population.

**Disability and Rehabilitation Research Projects**  
New York

---

**Demand-Side Employment Placement Models**

---

Syracuse University  
Burton Blatt Institute  
900 South Crouse Avenue  
Crouse-Hinds Hall 300  
Syracuse, NY 13244  
wmyhill@syr.edu  
bbi-empdemand.syr.edu/

**Principal Investigator:** Peter D. Blanck, PhD, JD 315/443-9703

**Public Contact:** William N. Myhill, MEd, JD 315/443-1367; Fax: 315/443-9725

**Project Number:** H133A060033

**Start Date:** July 01, 2006

**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 06 \$500,000; FY 07 \$500,000; FY 08 \$500,000; FY 09 \$500,000

**Abstract:** Americans with disabilities have significantly lower levels of employment than their peers without disabilities. Prior study of employment rates among people with disabilities generally has relied on a “supply-side” approach, analyzing how personal characteristics predict employment and earnings. These models have not sufficiently analyzed variables related to employer demand (and the interaction of employer demand/supply and the environment) as predictors of employment outcomes for people with disabilities. Thus, there is a need to systematically understand demand characteristics for qualified workers with disabilities, particularly as work requirements change over time. This project sets out scientifically rigorous and evidence-based methods to develop, identify, and evaluate employment demand-side models. It translates the findings into valid and practical tools for large and small businesses in different market sectors to improve employment outcomes. It evaluates the relative efficacy of these tools alongside supply-side research outcomes. The project is a nationwide collaboration of economists, statisticians, and leading experts in law, public and disability policy, corporate culture, applied life studies, technology, and education, as applied to disability employment policy and law. Project leadership includes disability scholars from universities around the country, with combined decades of research, training, and knowledge dissemination experience. The project builds fresh partnerships among disability policy and law experts, the business community, researchers, and national disability organizations such as the National Organization on Disability and the National Council on Independent Living. The project generates new knowledge to better understand market-driven workforce trends in large and small firms and different market sectors, and to inform employment practices to prepare individuals with disabilities for the present and future workforce. The project has a systematic plan and logic model for knowledge translation and dissemination aimed at providing employers best practice and practical tools to improve employment outcomes of people with disabilities.

**Disability and Rehabilitation Research Projects**

New York

**Center on Effective Delivery of Rehabilitation Technology by  
Vocational Rehabilitation Agencies**

---

Syracuse University  
Burton Blatt Institute  
900 South Crouse Avenue; Crouse-Hinds Hall 300  
Syracuse, NY 13244  
bbi.syr.edu/

**Principal Investigator:** Peter D. Blanck, PhD, JD 315/443-9703

**Public Contact:** Deepti Samant 202/296-5393; Fax: 202/296-2047

**Project Number:** H133A090004

**Start Date:** October 01, 2009

**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 09 \$499,630

**Abstract:** This Center uses quantitative and qualitative research methods to identify and document indicators of effective rehabilitation technology (RT) service delivery. Effectiveness is defined by quality indicators incorporating variables of structure, policy, decision making processes, and costs related to outcomes and counselor and consumer satisfaction. The Center also analyzes supports necessary for effective RT delivery, including counselor education, assessment tools and measures, information management, consumer education, quality assurance mechanisms, and public and private sector relationships. Selection and analysis of “effective RT service delivery models” takes into account variances related to urban versus rural areas, different types of disabilities, and programs administered within and outside State Vocational Rehabilitation (VR) agencies. The Center’s research team conducts in-depth evaluation of six State VR programs and six outside programs. The goal of the Center is to develop a new validated instrument and system of measurement to improve RT service delivery and reduce RT non-use and poor employment outcomes. The tool is accompanied by an interactive training program for VR counselors to build knowledge of RT solutions and an improved assessment process, including a set of exemplars, tools, and guidance that VR agencies and other programs can use to improve RT service delivery.

**Disability and Rehabilitation Research Projects**  
Texas

## **SEDL's Vocational Rehabilitation Service Models for Individuals with Autism Spectrum Disorders**

---

SEDL  
4700 Mueller Boulevard  
Austin, TX 78723  
john.westbrook@sedl.org  
www.autism.sedl.org

**Principal Investigator:** John Westbrook, PhD  
**Public Contact:** 512/476-6861; Fax: 512/476-2286

**Project Number:** H133A080007

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 08 \$350,000; FY 09 \$350,000

**Abstract:** For this project, SEDL partners with the Center for Autism and Related Disabilities at the University of Central Florida (UCF CARD) to create a knowledge translation initiative to address the growing need for improvement in vocational rehabilitation (VR) and transition services for persons with autism spectrum disorders (ASDs). SEDL and UCF CARD conduct a multifaceted set of research activities to identify and document VR and transitional behavior management practices that are linked to employment successes for people with ASDs, to identify factors that are strongly predictive of such success, to study the activities and impact of a statewide VR service provider network, and to document examples of success among individuals with ASDs in long-term employment placements. Research activities include conducting two major systematic reviews, implementation of a rigorous process for identifying and validating VR best practices, a study of the university-based statewide network of CARD centers in Florida, and case studies of individuals with ASDs and their families. Additionally, this project develops and disseminates an array of information products to inform both policy and practice, and to support implementation of best practices in VR settings throughout the US with existing national VR, service provider, advocacy, and research networks. This project is guided by a national advisory panel comprised of representatives from NIDRR-funded research initiatives addressing ASDs, VR professionals, ASDs service providers, and people with ASDs and/or their family members. The project outcomes include new knowledge and understanding, and allow for on-the-ground changes within the VR system, increasing employment among persons with ASDs.

**Disability and Rehabilitation Research Projects**  
Virginia

**Vocational Rehabilitation Service Models for Individuals with Autism  
Spectrum Disorders (VCU ASD Career Links)**

---

Virginia Commonwealth University  
VCU ASD Career Links  
P.O. Box 842011  
Richmond, VA 23298  
www.worksupport.com

**Principal Investigator:** Paul Wehman, PhD

**Public Contact:** 804/828-1852 (V); 804/828-2494 (TTY); Fax: 804/828-2521

**Project Number:** H133A080027

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 08 \$350,000; FY 09 \$350,000

**Abstract:** VCU ASD Career Links conducts evidence-based research on vocational rehabilitation (VR) service models for individuals with autism spectrum disorders (ASDs). The project is based at Virginia Commonwealth University (VCU) and is a collaborative initiative between VCU and the Virginia Department of Rehabilitative Services (DRS). The scope of research covers four areas: (1) the impact of intensive, community-based work experiences on the employment outcomes of youth with ASDs; (2) the postsecondary school participation and ultimate employment of college students with ASDs; (3) the impact of personal digital assistants (PDAs) on the employment outcomes of individuals with ASDs; and (4) a longitudinal analysis of VR service delivery and employment outcomes among DRS clients with ASDs. While the primary target population is persons with ASDs, there is an emphasis on youth and young adults who are unemployed, under-employed, or under-served in postsecondary education. Additionally, this project targets persons from traditionally under-represented populations with diverse racial and ethnic backgrounds. This project works collaboratively with four local school districts in the Richmond area and the Faison School for Autism to enroll youth with ASDs into the project. The project also works with colleges and universities throughout the Commonwealth of Virginia. Dissemination activities include web casts, fact sheets, evidence-based journal articles, and a toolkit on how to enhance VR employment models for youth with ASDs.

## Field Initiated Projects (FIPs)

Arkansas

# Beyond Hearing Aids: Training Resources to Improve the Capacity of VR Professionals Serving Consumers who are Hard of Hearing and Late Deafened

---

University of Arkansas for Medical Sciences  
Department of Educational Development  
4301 West Markham, # 595  
Little Rock, AR 72205  
seboone@uams.edu

**Principal Investigator:** Steven E. Boone, PhD; Alan VanBiervliet, PhD

**Public Contact:** 501/686-7348; Fax: 501/686-7348

**Project Number:** H133G090170

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 09 \$199,769

**Abstract:** This development project produces training resources designed to meet needs expressed by vocational rehabilitation (VR) professionals and consumers for increased knowledge and capacity to improve services to a growing population of 30.6 million persons with hearing loss. This project includes four steps: (1) empirically prioritize training content, (2) develop a multimedia training resource, (3) field-test its efficacy, and (4) train and disseminate the resource to a workforce of over 15,000 general and specialized counselors as well as approximately 1,100 annual graduates of over 85 rehabilitation counselor training programs. The developed materials will enhance the knowledge of general and specialized rehabilitation counselors who serve working age consumers who are hard of hearing or late deafened. The project collaborates with the Council of State Administrators of Vocational Rehabilitation (CSAVR) and content experts (VR providers, educators, consumers, and advocates) for the target population to produce and evaluate the needed resources.

**Field Initiated Projects (FIPs)**  
New Hampshire

## **Cognitive Training and Supported Employment in Severe Mental Illness**

---

Dartmouth College  
PRC, 105 Pleasant Street  
Concord, NH 03301-3852  
susan.r.mcgurk@dartmouth.edu

**Principal Investigator:** Susan McGurk, PhD

**Public Contact:** 603/271-5747; Fax: 603/271-5265

**Project Number:** H133G050230

**Start Date:** December 01, 2005

**Length:** 36 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 05 \$149,736; FY 06 \$149,749; FY 07 \$149,106; FY 08 (No-cost extension through 11/30/2009)

**Abstract:** Impaired cognitive functioning is an important predictor of employment outcomes in persons with severe mental illness (SMI), and a common complaint in consumers participating in vocational rehabilitation, including those in supported employment. This project evaluates a new, pilot tested and standardized intervention, the “Thinking Skills for Work”, a program designed to help people with SMI succeed in supported employment programs, including both getting and keeping jobs. The Thinking Skills for Work program is aimed at improving the cognitive functioning of persons with SMI involved in supported employment, and is based on a heuristic model of the interactions between cognition, symptoms, work performance, and vocational services. According to the model, enhanced cognitive functions improve both work outcomes and the efficiency of vocational services (i.e., fewer support services needed per hour of consumer work). The Thinking Skills for Work program is delivered by a specialist who educates consumers about cognitive functioning and work, involves them in a three-month program of computerized cognitive skills training, and works in collaboration with the consumer and supported employment specialist to identify appropriate jobs, practice newly acquired cognitive skills in work-related settings, and develop compensatory strategies for managing persistent cognitive impairments.

**Field Initiated Projects (FIPs)**  
New Hampshire

**Cognitive Remediation, Illness Self-Management, and Supported  
Employment in Severe Mental Illness**

---

Dartmouth College  
11 Rope Ferry Road, #6210  
Hanover, NH 03755  
susan.r.mcgurk@dartmouth.edu

**Principal Investigator:** Susan McGurk, PhD  
**Public Contact:** 603/271-5747; Fax: 603/271-5265

**Project Number:** H133G090206

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 09 \$198,738

**Abstract:** The goal of this project is to test the effectiveness of a bundle of services, including supported employment, cognitive rehabilitation (Thinking Skills for Work [TSW] program), and illness self-management (Illness Management and Recovery program), on improving employment outcomes and satisfaction of individuals with severe mental illness. The plan of evaluation is multidimensional with six parts that include assessing: (a) stated objectives, (b) two interventions being implemented with high fidelity to their models, (c) effectiveness of the TSW program on cognitive functioning, (d) recovery intervention having intended effect on improving illness and self-management, (e) long term effects on improving employment outcomes, and (f) perceived consumer experience. Assessment occurs throughout the project with the first already in place due to the implementation of a current piloted program. Project outcomes include: (1) knowledge that leads to improved work outcomes for consumers with severe mental illness who are enrolled in a supported employment programs; and (2) improvement of cognitive functioning and illness self-management skills in people with severe mental illness who are participating in supported employment program, in order to help them achieve their vocational goals and more effectively integrate into the community.



## Health and Function

---

Maximizing health and function among people with disabilities is critical to the achievement of NIDRR’s mission and the associated higher-order goals of employment and community participation. Functional ability reflects the complex interaction between individuals and the environments in which they live. Accordingly, NIDRR conceptualizes and examines issues of health and function at the individual and systems levels. Individual level research focuses on the development and testing of new interventions that improve functional and health outcomes for individuals. At the systems level, NIDRR-supported research focuses on the organization, and delivery of health care and medical rehabilitation services.

### Contents

Rehabilitation Research and Training Centers (RRTCs) .....	3
Disability and Rehabilitation Research Projects .....	15
Model Spinal Cord Injury Systems .....	48
Field Initiated Projects (FIPs) .....	62
Small Business Innovation Research (SBIR), Phase II .....	97



Rehabilitation Research and Training Centers (RRTCs)  
California

**Rehabilitation Research and Training Center in Neuromuscular  
Diseases (RRTC/NMD)**

---

University of California, Davis  
Department of Physical Medicine and Rehabilitation (TB191)  
School of Medicine  
One Shields Avenue  
Davis, CA 95616  
nmdinfo@ucdavis.edu  
www.nmdinfo.net

**Principal Investigator:** Craig McDonald, MD

**Public Contact:** Sandy Walsh, Coordinator of Information Services 530/752-3447; Fax: 800/508-9656

**Project Number:** H133B031118

**Start Date:** December 01, 2003

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 03 \$800,000; FY 04 \$800,000; FY 05 \$800,000; FY 06 \$800,000; FY 07 \$800,000; FY 08 (No-cost extension through 11/30/2009)

**Abstract:** The purpose of the Rehabilitation Research and Training Center in Neuromuscular Diseases (RRTC/NMD) is to enhance the health, function, and quality of lives of persons with neuromuscular diseases (NMD). The goals of this project are to: (1) develop a program for multicenter rehabilitation research in NMD through the Cooperative International Neuromuscular Research Group (CINRG); (2) conduct research that continues to address rehabilitation needs, particularly related to exercise, nutrition, pain, secondary conditions, and the quality of life of individuals with neuromuscular diseases; (3) develop and evaluate new or emerging technologies and interventions that provide the information needed to improve employment, community integration, and quality of life outcomes for this population of individuals with disabilities; (4) develop and evaluate appropriate health promotion and wellness programs that enhance the ability of individuals with neuromuscular disease to be physically active and participate in recreational activities; and (5) conduct a comprehensive program of training, dissemination, utilization, and technical assistance activities that are well-anchored in the research program and address the needs of stakeholders.

Rehabilitation Research and Training Centers (RRTCs)  
California

**Rehabilitation Research and Training Center in Neuromuscular  
Diseases (RRTC-NMD)**

---

University of California, Davis  
Department of Physical Medicine and Rehabilitation  
School of Medicine  
One Shields Avenue  
Davis, CA 95616  
cmmcdonald@usdavis.edu

**Principal Investigator:** Craig McDonald, MD 916/734-9516

**Public Contact:** Sandy Walsh, Coordinator of Information Services 530/752-3447; Fax: 916/734-7838

**Project Number:** H133B090001

**Start Date:** October 01, 2009

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 09 \$800,000

**Abstract:** This RRTC has five goals: (1) develop and test improved outcome measures for use in intervention and natural history studies in persons with neuromuscular diseases (NMDs); (2) identify or develop and test the effectiveness of new medical rehabilitation interventions, and document the effectiveness of existing interventions in persons with NMDs; (3) provide training, including graduate, pre-service, and in-service training, to help rehabilitation personnel effectively provide rehabilitation services to individuals with NMDs; (4) disseminate informational materials and provide technical assistance to individuals with NMDs, their representatives, providers, and other interested parties; and (5) serve as a national center of excellence in rehabilitation research for individuals with disabilities, their representatives, providers, and other interested parties. This RRTC conducts four research projects related to developing improved outcome measures. In Project 1, both currently used and novel clinical endpoints related to mobility and secondary conditions are studied. The clinical meaningfulness of those outcome measures are assessed in comparison to a new person-reported outcome measure (the NeuroQOL) which addresses impaired mobility, decreased self-care due to weakness, pain, and fatigue. In Project 2, the NeuroQOL instrument is further refined and validated for children 5 to 12 years of age who are commonly targeted for new interventions. Projects 3 and 4 evaluate novel and existing medical rehabilitation interventions in Duchenne muscular dystrophy (DMD). Project 3 uses a multicenter prospective natural history study of 347 individuals with DMD to evaluate existing medical rehabilitation interventions designed to enhance mobility and reduce the severity of secondary conditions. Project 4 examines the uses of a first-in-class medication to maintain or improve function in patients with DMD who have a premature stop codon mutation. Project 4 also focuses on individuals severely affected with DMD who are non-ambulatory and evaluates ataluren and its effects on mobility/upper extremity function, secondary conditions, and health-related quality of life.

Rehabilitation Research and Training Centers (RRTCs)  
District of Columbia

**Rehabilitation Research and Training Center on Spinal Cord Injury:  
Promoting Health and Preventing Complications through Exercise**

---

National Rehabilitation Hospital  
MedStar Research Institute  
Center for Health and Disability Research  
102 Irving Street, NW  
Washington, DC 20010  
matthew.e.kehn@medstar.net  
www.sci-health.org

**Principal Investigator:** Suzanne L. Groah, MD 202/877-1196

**Public Contact:** Matthew E. Kehn, Project Coordinator 202/877-1603; Fax: 202/726-7521

**Project Number:** H133B031114

**Start Date:** December 01, 2003

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 03 \$800,000; FY 04 \$800,000; FY 05 \$800,000; FY 06 \$800,000; FY 07 \$800,000; FY 08 (No-cost extension through 11/30/2009)

**Abstract:** This project systematically and comprehensively addresses the role and impact of physical activity in the prevention of secondary conditions in people with spinal cord injury (SCI). Initially, the project establishes critical, yet-undefined physiological responses to exercise in SCI and comprehensively examines cardiovascular disease risk in individuals with SCI applying accepted guidelines used in the able-bodied population. The project develops exercise formats specifically designed according to severity of SCI and chronicity of SCI to address the prevention of and knowledge regarding osteoporosis and other secondary conditions. In addition, the project determines whether regular exercise is related to fewer secondary conditions. These research findings feed into four training activities that include a peer mentoring program for newly injured people with SCI, a consumer-driven education curriculum for physical therapy and medical students, a state-of-science and training conference, and the development of a virtual resource network on exercise and prevention. The RRTC is a collaborative effort of clinical and disability researchers, SCI consumer organizations, and independent living advocates. In addition to its offerings on [www.sci-health.org](http://www.sci-health.org), the RRTC maintains a Live Journal site at [rrtc-sci.livejournal.com](http://rrtc-sci.livejournal.com). In addition to other webcast accessible through the Multimedia pages on the [sci-health.org](http://sci-health.org) website, the entire Fall 2006 State of the Science Conference is available on demand at [www.sci-health.org/SOS/SOS.php](http://www.sci-health.org/SOS/SOS.php).

Rehabilitation Research and Training Centers (RRTCs)  
District of Columbia

## Rehabilitation Research and Training Center on Secondary Conditions in Spinal Cord Injury

---

MedStar Research Institute  
NRH Research  
102 Irving Street, NW  
Washington, DC 20010  
matthew.e.kehn@medstar.net

**Principal Investigator:** Suzanne L. Groah, MD 202/877-1196

**Public Contact:** Matthew E. Kehn, Project Coordinator 202/877-1603; Fax: 202/726-7521

**Project Number:** H133B090002

**Start Date:** October 01, 2009

**Length:** 60 months

**NIDRR Officer:** Pimjai Sudsawad, ScD

**NIDRR Funding:** FY 09 \$799,995

**Abstract:** This RRTC focuses on the frequent and costly complications of obesity such as cardiometabolic syndrome (inclusive of obesity, insulin resistance, hypertension, dyslipidemia, and inflammation), and pressure ulcers among people with spinal cord injury (SCI), with a specific focus on the underserved. Utilizing novel diagnostic and therapeutic practices this RRTC addresses three major secondary conditions that lead to significant health decay in people with SCI. This RRTC includes three research (R1-R3) and training (T1-T3) projects. Project R1 determines the degree to which obesity is related to cardiometabolic health, cardiometabolic risk (CMR) factors, and atherosclerotic burden. Those requiring intervention based on CMR profile and atherosclerotic burden in R1 are selected to participate in Project R2, a randomized control trial examining impact of an omega-3 dietary supplement intervention. Project R3 determines the physiologic response of sacral and ischial skin to sitting and pressure relief. A behavioral self-management program is assessed to ensure future recommendations can be evidence-based. These research findings feed into three training activities that include culturally sensitive consumer education: T1 emphasizes underserved populations; T2 emphasizes professional training and education of rehabilitation and non-rehabilitation professionals utilizing online media; and T3 emphasizes dissemination through a state-of-science research and training conference.

Rehabilitation Research and Training Centers (RRTCs)  
Illinois

**Rehabilitation Research and Training Center on Enhancing the  
Functional and Employment Outcomes of Individuals Who Experience  
a Stroke**

---

Rehabilitation Institute Research Corporation  
345 East Superior Street  
Chicago, IL 60611  
ejr@northwestern.edu  
www.rrtc-stroke.org/

**Principal Investigator:** Elliot J. Roth, MD 312/238-4637

**Public Contact:** Linda Lovell, Project Coordinator 312/238-6197; Fax: 312/238-6998

**Project Number:** H133B080031

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 08 \$849,813; FY 09 \$849,514

**Abstract:** As new and better stroke treatments have become available, the number of stroke survivors living in the community has increased. Therefore, not only is there a need for further research on promising new interventions that promote health and function, but also a growing need for interventions that can be delivered in home and community settings. This project studies rehabilitation interventions and assessments focused on improved mobility and secondary conditions that have been designed with the intent of promoting efficient function in the workplace or at home. It also looks at the barriers and facilitators for return-to-work from the perspective of stroke survivors who are seeking employment. The RRTC research projects include: (1) a study of the effectiveness of stretching as hand therapy for sub-acute hemiparesis; (2) development of a low-cost, non-mechanized gait retraining device; (3) testing a self-management approach to community living, participation, and employment; (4) examining the barriers and enablers for return-to-work from the perspective of the individual who experienced the stroke; and (5) development of a return-to-work vocational assessment using virtual reality technology. For this project, the Rehabilitation Institute of Chicago has partnered with Northwestern University, the University of Illinois at Chicago, Washington University at St. Louis, Marquette University, and Archeworks, Inc, as well as the National Stroke Association and the National Aphasia Association.

Rehabilitation Research and Training Centers (RRTCs)  
New York

**Rehabilitation Research and Training Center on Traumatic Brain  
Injury Interventions**

---

Mount Sinai School of Medicine  
Research and Training Center  
One Gustave L. Levy Place, Box 1240  
New York, NY 10029  
wayne.gordon@mssm.edu  
www.tbicentral.org

**Principal Investigator:** Wayne A. Gordon, PhD

**Public Contact:** 212/659-9372 (V); 212/241-8978 (TTY); Fax: 212/348-5901

**Project Number:** H133B040033

**Start Date:** October 01, 2004

**Length:** 60 months

**NIDRR Officer:** A. Cate Miller, PhD

**NIDRR Funding:** FY 04 \$700,000; FY 05 \$700,000; FY 06 \$700,000; FY 07 \$700,000; FY 08 \$700,000; FY 09 (No-cost extension through 9/30/2010)

**Abstract:** The research program includes two randomized clinical trials (RCTs) and two projects supportive of better everyday interventions and better research: Research Study 1 (R1) is an RCT of a treatment for depression: cognitive behavioral therapy, adapted to address the unique cognitive and behavioral challenges of people with traumatic brain injury (TBI) that often pose barriers to treating depression, a major factor in reducing post-TBI quality of life, is compared to supportive therapy. In R2, a second RCT, a standard day treatment program is compared to a similar program (Executive Plus), augmented with modules to improve executive functioning and attention training. R3, Support for Evidence-Based Practice, evaluates all published research on post-TBI interventions and assessment of outcomes; it serves as a national resource for disseminating the results. It also implements three participatory action research-based analyses of high priority areas, including meta-analyses if appropriate. In addressing improved outcome measurement, R4 focuses on the PART instrument, a measure of participation currently being tested within eight TBI Model Systems. R4 focuses on creating a subjective approach to serve as a complement to the PART's current focus on objective assessment. A major focus of the RRTC is placed on capacity building of clinical and research professionals to address the need for better day-to-day interventions in the lives of people with TBI. Often their medical needs are misread, their brain injury goes unidentified, and they find services and accommodations inappropriate. Capacity building focuses on students early in their educational career - to help shape career choice and points of view; graduate and post-graduate students; and practicing "gate keepers" in the community, primarily psychologists and physicians.

Rehabilitation Research and Training Centers (RRTCs)  
Ohio

**Rehabilitation Research and Training Center on Interventions for  
Children and Youth with TBI**

---

Children's Hospital Medical Center  
3333 Burnet Avenue  
Cincinnati, OH 45229  
shari.wade@cchmc.org

**Principal Investigator:** Shari L. Wade, PhD  
**Public Contact:** 513/636-3370; Fax: 513/636-7360

**Project Number:** H133B090010  
**Start Date:** October 01, 2009  
**Length:** 60 months  
**NIDRR Officer:** A. Cate Miller, PhD  
**NIDRR Funding:** FY 09 \$799,337

**Abstract:** This project addresses the need for interventions for children and youth with traumatic brain injury (TBI). Interventions designed for this population must: (a) target the continuum of service delivery; (b) address the changing needs of the population; and most importantly, (c) include tools, training activities, and dissemination mechanisms for all of the “everyday” people who support children and youth. Project research identifies a reliable and valid measurement battery for assessing functional improvements arising from TBI interventions; and initiates a national, shared database of TBI outcomes data. This RRTC: (1) evaluates specific interventions to improve cognitive, behavioral, and psychosocial outcomes with a range of children and youth with TBI through randomized clinical trials; (2) evaluates the effectiveness of the validated interventions in natural settings; and (3) uses multi-method evaluations of the efficacy of training, technical assistance, and dissemination activities to verify the utility of the final products.

Rehabilitation Research and Training Centers (RRTCs)  
Oregon

## Rehabilitation Research and Training Center on Health and Wellness in Long Term Disability

---

Oregon Health and Science University  
Oregon Institute on Disability and Development  
Child Development and Rehabilitation Center  
707 Southwest Gaines  
P.O. Box 574  
Portland, OR 97207-0574  
rrtc@ohsu.edu  
www.healthwellness.org

**Principal Investigator:** Charles Drum, PhD 503/494-8364

**Public Contact:** Susan Wingenfeld 503/494-3533; Fax: 503/494-6868

**Project Number:** H133B040034

**Start Date:** October 01, 2004

**Length:** 60 months

**NIDRR Officer:** Phillip Beatty, PhD

**NIDRR Funding:** FY 04 \$700,000; FY 05 \$700,000; FY 06 \$700,000; FY 07 \$700,000; FY 08 \$700,000; FY 09 (No-cost extension through 9/30/2010)

**Abstract:** The vision of the RRTC is to contribute to the reduction of health disparities for person with disabilities through an integrated program of research, training, technical assistance, and dissemination. The Center has three inter-related strands of work to address its three intended outcomes/goals: (1) identify strategies to overcome barriers that impede access to routine healthcare for individuals with disabilities; (2) identify interventions in areas such as exercise, nutrition, pain management, or complementary and alternative therapies that promote health and wellness and minimize the occurrence of secondary conditions for persons with disabilities; and (3) develop improved status measurement tool(s) to assess health and well-being of individuals with disabilities regardless of functional ability. In order to achieve these outcomes, the RRTC conducts a coordinated program of research and training activities using a logic model framework. RRTC projects summarize and validate existing research findings on barriers to health care access as well as rigorously test and compare new strategies to overcoming identified barriers. The RRTC also examines and evaluates the practices of exemplary generic and specialized health promotion programs for people with disabilities in order to create an evidence-based set of evaluation and planning criteria. In addition, the RRTC organizes and uses panels to assess current health status measurement tools and develops or refines measures to more accurately reflect the health and well-being of people living with disabilities. Throughout these activities the RRTC disseminates informational materials and provide technical assistance to individuals with disabilities, their representatives, providers, and other interested parties.

Rehabilitation Research and Training Centers (RRTCs)  
South Carolina

**Rehabilitation Research and Training Center on Secondary Conditions  
in Individuals with SCI**

---

Medical University of South Carolina  
77 President Street  
P.O. Box 250700  
Charleston, SC 29425  
cokerj@musc.edu

**-b:Principal Investigator:** James S. Krause, PhD

**Public Contact:** Jennifer Coker, MPH 843/792-1337; Fax: 843/792-5649

**Project Number:** H133B090005

**Start Date:** October 01, 2009

**Length:** 60 months

**NIDRR Officer:** Pimjai Sudsawad, ScD

**NIDRR Funding:** FY 09 \$794,504

**Abstract:** The RRTC combines an integrated program of research to identify risk and protective factors for secondary conditions in spinal cord injury (SCI) with a systematic program of education, training, dissemination, and technical assistance. This program allows new knowledge to be directly translated into prevention strategies at the policy, rehabilitative, clinical, community, and individual consumer levels. The key to prevention of secondary conditions is to first identify to whom they occur and why, then to widely educate and disseminate new knowledge to professionals and consumers in a format they can directly use in the prevention of secondary conditions. Through three research studies, integrating two theoretical models of risk of secondary conditions, the project identifies the risk and protective factors that put the greatest number of individuals at risk for the greatest number of conditions. Study 1 is a longitudinal follow-up of 1,755 participants who completed an extensive assessment of risk and protective factors for secondary conditions that include adverse events (e.g., pressure ulcers, hospitalizations), chronic conditions (e.g., pain, fatigue), and psychosocial conditions (e.g., depressive disorder). The study examines the stability of secondary conditions and identifies psychological, environmental, and behavioral predictors of future episodes of secondary condition. Study 2 identifies the association of access to health services, including initial rehabilitation services (i.e., inpatient, outpatient only, no rehabilitation), with presence of secondary conditions. By using a population-based cohort, this study identifies the role of access to services among those with the fewest resources as they are at greatest risk for secondary conditions. Study 3 utilizes a 17-year follow-up among 845 participants from Rancho Los Amigos National Rehabilitation Center to investigate the stability of metabolic syndrome over time and its relationship with secondary conditions including pain, fatigue, and a depressive disorder.

Rehabilitation Research and Training Centers (RRTCs)  
Washington

---

**Multiple Sclerosis Rehabilitation Research and Training Center**

---

University of Washington  
Department of Rehabilitation Medicine  
Box 356490  
Seattle, WA 98185  
msrrtc@u.washington.edu  
www.msrrtc.washington.edu

**Principal Investigator:** George H. Kraft, MD 206/543-7272

**Public Contact:** 888/634-6778; 206/221-5302; Fax: 206/685-3244

**Project Number:** H133B080025

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 08 \$850,000; FY 09 \$850,000

**Abstract:** This project conducts a comprehensive program of research on issues critical to individuals living with multiple sclerosis (MS) in the areas of outcomes measurement, improved medical and community interventions, and improved employment outcomes. The project includes three coordinated core areas of research designed to enhance function and employment in individuals with MS. Program I: The Outcomes Measurement core includes a longitudinal study of 400 people with MS of secondary conditions such as pain, fatigue, depression, and cognitive impairment, and outcomes such as participation including employment. This program uses modern psychometric techniques to evaluate measures of these and other secondary conditions, develop cross-walking tables to allow comparison of scores across measures, and compare levels of pain, fatigue, and depression in MS to norms of the general population and other disability groups. Program II develops improved medical or community rehabilitation interventions by conducting a randomized controlled trial of individualized self-management training delivered by telephone to reduce secondary conditions such as fatigue and pain with a generic psychoeducational intervention for control. This program evaluates the impact on participation, including employment, in addition to evaluating reduction in interference from secondary conditions. Program III improves employment outcomes of persons with MS by examining the national RSA 911 database to identify process and outcome variables associated with successful vocational rehabilitation (VR) closures. Qualitative interviews are conducted with federal state VR counselors to understand their perspectives on VR services and MS. Longitudinal data on employment is analyzed to evaluate changes in employment status over time. Researchers conduct follow-up surveys about impact of accommodation services on employment with 200 recipients of services from MS Employment Assistance Service. The result is best practices and recommendations for improved employment services.

Rehabilitation Research and Training Centers (RRTCs)  
Washington

**Rehabilitation Research and Training Center on Aging with a Physical Disability: Reducing Secondary Conditions and Enhancing Health and Participation, Including Employment**

---

University of Washington  
Department of Rehabilitation Medicine  
1959 NE Pacific Street  
BB-919 Box 356490  
Seattle, WA 98195  
agerrtc.washington.edu/

**Principal Investigator:** Mark P. Jensen, PhD; Ivan Molton, PhD; 206/543-3185  
**Public Contact:** 888/634-6778; Fax: 206/685-3244

**Project Number:** H133B080024

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Margaret Campbell, PhD

**NIDRR Funding:** FY 08 \$850,000; FY 09 \$850,000

**Abstract:** The goal of this center is to foster a better understanding the challenges faced by those aging with a physical disability. The project focuses on four populations of persons with disabilities: persons with spinal cord injury (SCI), multiple sclerosis (MS), post-polio syndrome (PPS), and muscular dystrophy (MD). The project: (1) enhances understanding of the natural course of aging with these disabilities through a series of longitudinal surveys to examine the effects of aging in the development of secondary conditions; (2) develops and evaluates measures of key outcome domains for use with individuals aging with SCI, MS, PPS, and MD utilizing cross-population and cross-measure analyses to evaluate the psychometric properties of instruments used in disability research, as well as to develop better measures of depression, fatigue, participation, and pain; (3) tests the efficacy of two innovative interventions that enhance the health and participation in these populations, using remote monitoring of activity levels and a pilot intervention featuring remote prompting to enhance self-management of activity patterns; (4) enhances understanding of the experiences of individuals aging with SCI, MS, PPS, and MD in the workplace and with vocational rehabilitation and employment services through secondary data analysis and qualitative interviews; and (5) disseminates the findings from the research projects in an effective and efficient manner to individuals with disabilities, their family members, and their health care providers.

## Rehabilitation Engineering Research Center for Successful Aging with Disability: Optimizing Participation Through Technology (OPTT-RERC)

---

University of Southern California  
Division of Biokinesiology and Physical Therapy  
1540 Alcazar Street, CHP-155  
Los Angeles, CA 90033  
winstein@usc.edu  
www.isi.edu/research/lerc

**Principal Investigator:** Carolee J. Winstein, PhD, PT (USC); Philip Requejo, PhD (Rancho Los Amigos) 323/442-2903

**Public Contact:** Carolee J. Winstein, PhD, PT 323/442-2903; Fax: 323/442-1515

**Project Number:** H133E080024

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Margaret Campbell, PhD

**NIDRR Funding:** FY 08 \$950,000; FY 09 \$950,000

**Abstract:** The goal of this project is to enhance the lives of individuals aging with and into disability through: (1) development and delivery of cutting-edge technologies for identification, evaluation, and rehabilitation of motor processes that facilitate or impede functional performance, employment, and community participation for the intended beneficiaries; (2) employment of state-of-the-art data management, dissemination, and performance evaluation techniques to ensure that the knowledge and products emergent from the RERC are accessible for all intended beneficiaries; (3) assembly of a multidisciplinary team of experts in clinical rehabilitation, engineering, and gerontology, along with a select group of technology partners, and disability advocates to ensure that OPTH-RERC's short- and long-term outcome goals are successfully implemented; and (4) alignment of the clinical and technological strengths of several area programs into an integrated infrastructure to provide training opportunities for future rehabilitation researchers. The Dexterous Manipulation with the Fingertips Project evaluates a clinically useful metric and rehabilitation strategy for dynamic multifinger dexterity (R1) and, in collaboration with the second project area, develops a home-use gaming system to promote retention and improvement of dexterous manipulation via immersion technologies (D1). The Virtual Reality (VR) and Gaming for Home-Based Motor Assessment and Training Project develops low cost, home-based VR toolkits (VRT) for motor assessment and rehabilitation (D2) and investigates the efficacy of the VRT games for use in both the clinic setting and the home for individuals aging with and into disability (R2). The Optimizing Mobility in the Home and Community for Manual Wheelchair Users Project identifies optimal transfer and lifting mechanics to preserve the shoulder complex (R3) and uses VRT games for targeted and progressive shoulder exercise while sitting in a wheelchair (D3). The Neuromuscular Electrical Stimulation (NMES) for Mobility uses implantable wireless micro-stimulators to prevent recurrences of debilitating pressure ulcers in the middle age and older individuals with disability (D4).

**Disability and Rehabilitation Research Projects**

Alabama

**University of Alabama at Birmingham (UAB) Traumatic Brain Injury  
Model System (UAB TBIMS)**

---

University of Alabama/Birmingham  
Spain Rehabilitation Center  
Physical Medicine and Rehabilitation  
619 - 19th Street South, SRC529  
Birmingham, AL 35249-7330  
novack@uab.edu  
www.uab.edu/tbi

**Principal Investigator:** Thomas A. Novack, PhD

**Public Contact:** Pamela K. Mott 205/934-3283

**Project Number:** H133A070039

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** A. Cate Miller, PhD

**NIDRR Funding:** FY 07 \$434,398; FY 08 \$434,399; FY 09 \$434,397

**Abstract:** This project provides rehabilitation services specifically designed to meet the special needs of individuals with traumatic brain injury (TBI) through a multidisciplinary, comprehensive model system which spans the clinical continuum from emergency services through rehabilitation and community re-entry. The project includes one collaborative research module and one in-house research project, aimed at improving the health and function, as well as the community participation of the individuals with TBI. The collaborative research module involves examination of the risks and consequences of weight gain after TBI, which has never been explored in depth. The in-house research project focuses on an in-home training program to improve visual perceptual speed that could impact return to driving.

**Disability and Rehabilitation Research Projects**  
California

**Northern California Traumatic Brain Injury Model System of Care**

---

Santa Clara Valley Medical Center (SCVMC)  
Rehabilitation Research Center  
751 South Bascom Avenue  
San Jose, CA 95128  
jerry.wright@hhs.sccgov.org  
www.tbi-sci.org

**Principal Investigator:** Jeffrey Englander, MD

**Public Contact:** Jerry Wright 408/793-6433; Fax: 408/793-6434

**Project Number:** H133A070038

**Start Date:** October 07, 2007

**Length:** 60 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 07 \$426,720; FY 08 \$426,720; FY 09 \$426,720

**Abstract:** This project conducts research with a focus on fatigue in individuals with traumatic brain injury (TBI). Current studies have identified a strong association of fatigue with sleep disorders, depression, pain, and cognitive challenges; the prevalence of pituitary dysfunction is high in this group as well but the level of dysfunction is not proportional to levels of fatigue. This site specific research effort is a prospective, randomized, single-blind crossover study that evaluates the impact of a graduated physical activity program on fatigue and related factors of depression, sleep quality/daytime drowsiness, cognitive function, and general health measures.

**Disability and Rehabilitation Research Projects**  
Colorado

**UCHSC Burn Model System Data Coordination Center (BMS/DCC)**

---

University of Colorado Denver - Anschutz Medical Campus  
Colorado School of Public Health  
Department of Biostatistics and Informatics  
13001 East 17th Avenue, Box B119  
Aurora, CO 80045  
erin.delong@ucdenver.edu  
bms-dcc.uchsc.edu

**Principal Investigator:** Dennis C. Lezotte, PhD

**Public Contact:** Erin Delong, Project Coordinator 303/724-4388; Fax: 303/724-4491

**Project Number:** H133A070006

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 07 \$300,000; FY 08 \$300,000; FY 09 \$300,000

**Abstract:** The Burn Model System Data Collection Center (BMS/DCC) provides scientific and technical support to the Burn Model Systems' mission, which is "to conduct research that contributes to evidence-based rehabilitation and clinical interventions as well as develop practice guidelines that improve the lives of individuals with burn injuries." The BMS/DCC addresses four important areas in rehabilitation research: project design and management, data management and quality, scientifically appropriate analytical support, and broad dissemination for long-term impact. The data center strives to provide quality support by developing integrated information systems, providing professional consultation, and designing and delivering dedicated training programs. The primary goal is to improve the scientific rigor of clinical and rehabilitation research in the area of burn injury. Areas of specific concern include: collecting multi-site longitudinal outcomes data; coordinating multi-center research data; providing analysis and oversight to achieve scientifically sound multi-center collaborative and site-specific clinical and rehabilitative research; collaborating with other National Data and Statistical Centers to exchange ideas and ensure the most efficient operations; publishing scientifically rigorous articles; and coordinating other effective dissemination strategies. The BMS/DCC consists of two functionally independent but related units, a data administration core and an analytical core. The data administration core continues to support and manage the BMS Level 1 (National) Database while implementing the necessary improvements to ensure quality and scientifically sound data for burn research. In addition, the data administration core implements web-based data collection and research support tools for collaborative modules and, as needed, assists in the conduct of the site-specific research studies. The analytical core provides statistical support (analysis, consultation, study-design, and study implementation) for projects that use either Level 1 data or data generated from collaborative and site-specific research.

## Disability and Rehabilitation Research Projects

Colorado

### **Collaborative Spinal Cord Injury Model Systems Centers Program: Improving Spinal Cord Injury Rehabilitation Outcomes**

---

Craig Hospital  
3425 South Clarkson Street  
Englewood, CO 80113  
gale@craig-hospital.org  
www.craighospital.org

**Principal Investigator:** Gale G. Whiteneck, PhD

**Public Contact:** 303/789-8204; Fax: 303/789-8441

**Project Number:** H133A060103

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Phillip Beatty, PhD

**NIDRR Funding:** FY 06 \$2,200,000; FY 07 \$900,000; FY 08 \$900,000; FY 09 \$900,000

**Abstract:** Inpatient rehabilitation for spinal cord injury (SCI), like all of rehabilitation, has been studied largely as an undifferentiated black box. Research has examined the whole “rehabilitation package” but has not addressed which specific therapy interventions, medical procedures, patient education, counseling, or activities are effective when offered in various combinations or sequences, for specific types of patients and impairments. To address this limitation, this project uses Clinical Practice Improvement (CPI) research methodology to isolate specific components of rehabilitation interventions, and to determine how, and to what degree, each component is associated with outcomes. Specific aims are to: (1) identify individual patient characteristics, including demographic data, severity of SCI, and severity of illness (complications and comorbidities), that explain significant variation in the outcomes of acute rehabilitation for SCI; (2) identify specific medical/nursing procedures and therapy interventions, or combinations of procedures and interventions that are associated with better outcomes, controlling for patient characteristics; and (3) determine whether specific impairment-by-treatment interactions are associated with better outcomes. This project is a collaborative research partnership with five other prominent SCI rehabilitation facilities: Rehabilitation Institute of Chicago, Shepherd Center, Mt. Sinai Medical Center, National Rehabilitation Hospital, and Carolinas Rehabilitation. Also collaborating is the Institute for Clinical Outcomes Research at International Severity Information Systems in Salt Lake City, Utah, which has extensive experience applying CPI methodology, and MobileDataForce in Boise, Idaho, with expertise in handheld data capture technology.

**Disability and Rehabilitation Research Projects**  
Colorado

**The National Data and Statistical Center for the Traumatic Brain  
Injury Model Systems**

---

Craig Hospital  
3425 South Clarkson Street  
Englewood, CO 80113  
charrison-felix@craighospital.org  
www.tbindsc.org

**Principal Investigator:** Cynthia Harrison-Felix, PhD  
**Public Contact:** 303/789-8565; Fax: 303/789-8441

**Project Number:** H133A060038

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Phillip Beatty, PhD

**NIDRR Funding:** FY 06 \$625,000; FY 07 \$625,000; FY 08 \$625,000; FY 09 \$625,000

**Abstract:** By implementing a comprehensive and innovative program of new data management technologies and operating procedures that emulate the best practices of clinical research organizations and data coordinating centers, the National Data and Statistical Center (NDSC) increases the rigor and efficiency of scientific efforts to longitudinally assess the experience of individuals with traumatic brain injury (TBI) and advances TBI rehabilitation. The TBIMS database and the NDSC introduce the following innovations: a state-of-the-art, web-based data management system; a computer-assisted interview system; a Standard Operating Procedures Manual; training through quarterly web-based conferences, as well as more frequent in-person conferences; comprehensive Data Collector certification; annual data monitoring visits to each center; analysis of ethnic/racial bias in participant recruitment and retention and collaboration with the NIDRR-funded Center for Capacity Building on Minorities with Disabilities Research; providing more comprehensive methodological as well as statistical consultation; continuation of the TBIMS survival study; a system for following participants from defunded centers; and the use of common procedures, technologies, and training among all Model System Data Centers.

**Disability and Rehabilitation Research Projects**  
Colorado

**The Rocky Mountain Regional Brain Injury System (RMRBIS)**

---

Craig Hospital  
3425 South Clarkson Street  
Englewood, CO 80113  
charrison-felix@craighospital.org  
www.craighospital.org/Research/TBIModelsystems.asp

**Principal Investigator:** Gale G. Whiteneck, PhD 303/789-8204

**Public Contact:** Cynthia Harrison-Felix, PhD 303/789-8565; Fax: 303/789-8441

**Project Number:** H133A070022

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 07 \$426,720; FY 08 \$426,720; FY 09 \$426,720

**Abstract:** The Rocky Mountain Regional Brain Injury System (RMRBIS) conducts two site specific research projects, participates in three collaborative research modules, contributes to the longitudinal Traumatic Brain Injury (TBI) National Database, and maintains a TBI Model System of care and research. Research Project R1: Atomoxetine (Strattera) for the treatment of attention disorders in individuals with TBI determines if the only drug approved for attention deficit hyperactivity disorder improves attention, behavioral functioning, and depression in individuals with TBI, using a randomized double-blind placebo-controlled crossover study design. Research Project R2: A health and wellness intervention for individuals with TBI, evaluates a specific, replicable small-group educational approach to improve health-related self-efficacy, health promoting behaviors, and health-related quality of life in individuals with TBI using a randomized wait list control group study design. If effective, this intervention could improve the health and wellness of the many people with secondary conditions and less than healthy lifestyles after TBI. Collaborative Module 1: Sexuality after TBI examines the frequency, type, and severity of changes in sexual function associated with TBI. Collaborative Module 2: Natural history of headache after TBI investigates incidence, prevalence, and types of headache after TBI. Collaborative Module 3: Enhancing Core dataset to expand research on environmental influences affecting outcomes from TBI evaluates the feasibility, reliability, and utility of recording geographic identifiers for place of residence after TBI.

**Disability and Rehabilitation Research Projects**  
Illinois

**Reducing Obesity and Obesity-Related Secondary Conditions in  
Adolescents with Disabilities**

---

University of Illinois at Chicago  
Department of Disability and Human Development  
1640 West Roosevelt Road, Suite 712 M/C 626  
Chicago, IL 60608-6904  
jrimmer@uic.edu  
www.rectech.org

**Principal Investigator:** James H. Rimmer, PhD  
**Public Contact:** 312/413-9651; Fax: 312/355-4058

**Project Number:** H133A060066

**Start Date:** November 01, 2006

**Length:** 36 months

**NIDRR Officer:** Margaret Campbell, PhD

**NIDRR Funding:** FY 06 \$250,000; FY 07 \$250,000; FY 08 \$250,000; FY 09 (No-cost extension through 10/31/2010)

**Abstract:** This project examines the antecedents and consequences of obesity using the ICF framework that addresses both person and environment contextual factors that relate to obesity in adolescents with disabilities; evaluates the validity and utility of an alternative approach for establishing more accurate cutoff points for overweight and obesity in adolescents with disabilities; develops a pilot intervention using an innovative personalized exercise and nutrition program (PEP-for-Youth) for managing obesity among youth with physical and developmental disabilities; and develops mutually beneficial working partnerships with community-based organizations to promote reduction of obesity in youth with disabilities. The research projects operate in partnership with Shriners Hospitals for Children and five national disability organizations (Easter Seals, United Cerebral Palsy, Spina Bifida Association, the Arc, and Blaze Sports America).

## Disability and Rehabilitation Research Projects

Illinois

### **Midwest Regional Traumatic Brain Injury Model System: Innovative Approaches to Improve Cognition, Function, and Community Living**

---

Rehabilitation Institute Research Corporation  
345 East Superior Street  
Chicago, IL 60611  
[www.ric.org/research/centers/MRTBIMS/index.aspx](http://www.ric.org/research/centers/MRTBIMS/index.aspx)

**Principal Investigator:** Elliot J. Roth, MD; Felise Zollman, MD; 312/238-4637; 312/238-8045

**Public Contact:** Elliot J. Roth, MD 312/238-4637; Fax: 312/238-1417

**Project Number:** H133A080045

**Start Date:** October 01, 2008

**Length:** 48 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 08 \$418,139; FY 09 \$418,528

**Other Funding:** FY 09 Rehabilitation Institute of Chicago

**Abstract:** The Midwest Regional Traumatic Brain Injury Model System (MRTBIMS) accomplishes several important objectives in support of an interdisciplinary, multidimensional center focused on providing and improving care for people with traumatic brain injury (TBI). MRTBIMS establishes a coordinated, multilevel, interdisciplinary system of care for people with TBI, including pre-hospital, emergency, acute, long-term acute, intensive rehabilitation, and community care. This continuum of care is provided at Northwestern Memorial Hospital, RML Specialty Hospital, and the Rehabilitation Institute of Chicago and its System of Care. Data is submitted on at least 35 TBI patients per year to the National TBI Database. Research plans include implementation of two site-specific research projects, which consist of clinical trials on the effectiveness of acupuncture to improve sleep in TBI patients and on the effectiveness of a virtual reality robotics program to improve attention and concentration in TBI patients. The Center is engaged in dissemination of educational and other materials on TBI to a variety of target audiences, including persons with TBI and their families, professionals who care for patients with TBI, and the public—collaborating with the Brain Injury Association of Illinois and other NIDRR-funded centers as appropriate.

**Disability and Rehabilitation Research Projects**  
Maryland

**Johns Hopkins University Burn Injury Rehabilitation Model System  
(JHU-BIRMS)**

---

Johns Hopkins School of Medicine  
Johns Hopkins Burn Center Adult Unit  
Johns Hopkins Bayview Medical Center Pediatric Unit; Johns Hopkins Hospital  
4940 Eastern Avenue  
Baltimore, MD 21224  
smason23@jhmi.edu  
[www.hopkinsmedicine.org/burn/research/index.html](http://www.hopkinsmedicine.org/burn/research/index.html)  
[www.hopkinsmedicine.org/burn/research/psqscq.pdf](http://www.hopkinsmedicine.org/burn/research/psqscq.pdf)

**Principal Investigator:** James A. Fauerbach, PhD 410/550-0894

**Public Contact:** Shawn Mason, PhD 410/550-9846; Fax: 410/550-8161

**Project Number:** H133A070045

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** A. Cate Miller, PhD

**NIDRR Funding:** FY 07 \$362,500; FY 08 \$362,500; FY 09 \$362,500

**Abstract:** The Johns Hopkins University-Burn Injury Model System (JHU-BIMS) includes three projects: two site-specific randomized, controlled trials (RCT), and one multi-site collaborative study. The first site-specific project is an RCT to test the efficacy of an innovative “Augmented Exercise Program” in enhancing recovery of strength and endurance in those with generalized deconditioning. Preliminary results demonstrate that this 12-week, 36-session conditioning regimen, relative to baseline and to usual care, significantly improves aerobic conditioning. The second site-specific project is an RCT to test the effectiveness of an intervention entitled “Safety, Meaning, Activation, and Resilience Training” (SMART). SMART is a four-session intervention that aims to reduce acute psychological distress and sleep disturbance and to thereby prevent chronic psychiatric disorders and disability. Pilot data show that SMART effectively reduces post-trauma distress, sleep disturbance, and depression. The third project is a multi-site collaborative module entitled “Long-Term Follow-up of the National Database Sample” that extends follow-up to five years post-burn. The NIDRR funded Burn Model System national database provides an unprecedented opportunity to conduct a prospective, multi-site study to assess the long term needs of burn survivors. The Johns Hopkins Burn Center continues to contribute to the Burn Model System national database, as well.

**Disability and Rehabilitation Research Projects**  
Michigan

**Michigan Traumatic Brain Injury Model System (SEMTBIS)**

---

Wayne State University  
5057 Woodward Avenue, Suite 6402  
Detroit, MI 48202  
ckoviak@dmc.org  
www.semtbis.org

**Principal Investigator:** Robin A. Hanks, PhD 313/745-9763

**Public Contact:** Carole Koviak, RN 313/745-9737; Fax: 313/745-9854

**Project Number:** H133A080044

**Start Date:** October 01, 2008

**Length:** 48 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 08 \$438,074; FY 09 \$437,676

**Abstract:** SEMTBIS focuses on the following major areas: research, education, clinical and systems analysis studies, collection and dissemination of data, and promotion of professional development for individuals with disabilities as well as their family members or caregivers. Two studies address enhancement of health and function of persons with traumatic brain injury (TBI). Projects evaluate the predictive validity of three newly developed brain magnetic resonance imaging (MRI) techniques with respect to functional independence, level of disability, and neurobehavioral outcomes at one and two years post-injury; and examine the safety and efficacy of an antibiotic medication that is thought to positively influence neuroplasticity in the acute stages of recovery from TBI. SEMTBIS recruits, educates, and promotes professional development of individuals with disabilities as well as their family members or caregivers; with consumer involvement in the advisory board and as project staff. SEMTBIS continues to participate in clinical and systems analysis studies of the TBIMS by collecting and contributing data to a uniform, standardized national database on patient characteristics, diagnoses, causes of injury, interventions, outcomes, and costs. Evaluation of these research projects and the overall operations of the SEMTBIS employs a multifaceted approach of quantifiable and objective procedures.

**Disability and Rehabilitation Research Projects**  
Minnesota

**Health Care Coordination for Individuals with Physical Disabilities:  
Critical Elements and Consumer Outcomes**

---

University of Minnesota  
Institute on Community Integration  
111 Pattee Hall; 150 Pillsbury Drive Southeast  
Minneapolis, MN 55455-0223  
abery001@umn.edu

**Principal Investigator:** Brian Abery, PhD  
**Public Contact:** 612/625-5592; Fax: 612/624-9344

**Project Number:** H133A080049  
**Start Date:** October 01, 2008  
**Length:** 60 months  
**NIDRR Officer:** Leslie J. Caplan, PhD  
**NIDRR Funding:** FY 08 \$277,233; FY 09 \$282,465

**Abstract:** This project creates new knowledge about health care coordination within Minnesota's Special Needs Basic Care (SNBC) program. Project activities include establishing and testing an operational definition of health care coordination for adults with physical disabilities and examining the extent to which the various components of health care coordination enhance access to health care, improve health outcomes, and create cost savings. The project uses a Participatory Planning and Decision Making process and key informant interviews to identify, classify, and richly describe care management models used in SNBC as well as the critical components of effective care coordination. Cognitive testing and reliability and validity assessment are used to modify several instruments to measure the elements of managed care and managed care outcomes for persons with physical disabilities. Finally, a combination of survey research (in-person interviews) and analysis of secondary data sets (Centers for Medicaid and Medicare utilization information, and Minnesota Department of Human Services assessment and utilization data) is used to examine managed care outcomes for a total of 350 individuals participating in the SNBC program, taking into account variables such as type and severity of disability (including the presence of dual diagnoses), urban or rural location, age, and other demographic characteristics known or hypothesized to be associated with health care access, outcomes and costs. The impact of care coordination models is tested on several outcomes including health care access (Health Care Quality Scale, annual DHS mandated health care accessibility survey results), outcomes (including but not limited to health care self-direction, stress, disability impact), and costs. Products from this line of research include an operational definition of the elements of care coordination, validated reliable instrumentation to measure elements of care coordination, and academic and research-to-practice publications describing the impact of care coordination on access to health care, health care outcomes, and cost.

## Disability and Rehabilitation Research Projects

Minnesota

### Mayo Clinic Traumatic Brain Injury Model System

---

Mayo Clinic  
Mayo Clinic College of Medicine  
Mayo Foundation for Medical Education and Research  
200 First Street  
Rochester, MN 55905  
brown.allen@mayo.edu  
www.mayo.edu/model-system

**Principal Investigator:** Allen W. Brown, MD

**Public Contact:** Anne Moessner 507/255-3116; Fax: 507/255-7696

**Project Number:** H133A070013

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 07 \$423,590; FY 08 \$423,590; FY 09 \$423,590

**Abstract:** The purpose of the Mayo Clinic Traumatic Brain Injury Model System (TBIMS) is to provide comprehensive, integrated, team-based rehabilitation care and education to individuals with traumatic brain injury (TBI), their families, and significant others along the continuum of recovery and to fill gaps in research knowledge and service delivery through clinical research that promotes full personal and social participation. The Mayo Clinic TBIMS conducts one site-specific project. This project, an Advocacy Training Clinical Trial (ATCT), targets the gap in knowledge concerning the most efficacious method of teaching effective self and system advocacy skills. The goal of the ATCT is to identify efficacious advocacy training methods using a randomized practical behavioral trial methodology in three Midwest states. Objectives of the ATCT are threefold: (1) develop TBI specific measures of advocacy activity, perceived control, and self efficacy; (2) implement, evaluate, and continuously improve upon the ATCT; and (3) assess the statewide impact of the ATCT on greater communities, public policy, systems change, and in the media. The ATCT is designed to establish a sustainable program of efficacious and effective advocacy training in the trial communities, and provide a model for implementation in other communities.

## A Multicenter Prospective Randomized Controlled Trial of the Effectiveness of Amantadine Hydrochloride in Promoting Recovery of Function Following Severe Traumatic Brain Injury

---

JFK Johnson Rehabilitation Institute  
Center for Head Injuries  
2048 Oak Tree Road  
Edison, NJ 08820  
jgiacino@solarishs.org  
www.njrehab.org/tbims/index.asp

**Principal Investigator:** Joseph T. Giacino, PhD  
**Public Contact:** 732/205-1461; Fax: 732/632-1584

**Project Number:** H133A031713

**Start Date:** January 01, 2004

**Length:** 48 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 03 \$599,862; FY 04 \$599,994; FY 05 \$599,994; FY 06 \$599,994; FY 07 \$599,994; FY 08 (No-cost extension through 12/31/09)

**Abstract:** This project conducts a prospective double blind randomized controlled trial of amantadine hydrochloride on disorders of consciousness. Severe traumatic brain injury may result in severe disorders of consciousness (DOC), including coma, the vegetative state (VS) and the minimally conscious state (MCS). The longer the duration of impaired consciousness, the worse the ultimate functional prognosis, with only about half of those individuals who remain unconscious for a month post-TBI regaining consciousness within a year. The severe functional disability associated with prolonged DOC places enormous emotional, financial, ethical, and logistical strains on caregivers and major resource demands on society. In this study, seven facilities (including two with TBI Model Systems designations) that participated in a multi-center research network called the Consciousness Consortium, join with four additional brain injury rehabilitation centers (two in the U.S. and two in Europe) and a Data Coordinating Center at Columbia University. 184 patients who remain in VS or MCS 4 to 16 weeks post-TBI are randomized in a stratified fashion to 4 weeks of amantadine (200 to 400 mg/day) vs. placebo, followed by a two-week washout period. The Disability Rating Scale (DRS) is the primary dependent variable with the Coma Recovery Scale-Revised (CRS-R) serving as a supplementary measure. The project also explores whether treatment response differs by time post-injury and by diagnosis (i.e., VS or MCS) at treatment onset, and whether specific outcomes of importance to caregivers are achieved more often in the amantadine group. The project includes intensive education of caregivers and clinicians about this study to address perceived barriers to enrollment and also uses the information gathered during these interactions to develop consumer-oriented dissemination activities. Project outputs and findings are disseminated to appropriate consumer and professional audiences using a variety of formats and include: (1) improved family member understanding of DOC which will facilitate improved adjustment and caregiving and (2) clear guidance to clinicians regarding the effectiveness of amantadine for persons with DOC.

**Disability and Rehabilitation Research Projects**  
New Jersey

---

**JFK-Johnson Rehabilitation Institute TBI Model System**

---

JFK Johnson Rehabilitation Institute  
2048 Oak Tree Road  
Edison, NJ 08820  
tbims@solarishs.org  
www.njrehab.org/tbims

**Principal Investigator:** Keith D. Cicerone, PhD  
**Public Contact:** 732/906-2640; Fax: 732/906-9241

**Project Number:** H133A070030

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** A. Cate Miller, PhD

**NIDRR Funding:** FY 07 \$419,921; FY 08 \$419,921; FY 09 \$419,921

**Abstract:** Site-specific research represents a sustained investigation of cerebral activation in patients with disorders of consciousness (DOC): vegetative state (VS) and minimally conscious state (MCS). At present, clinical judgment and experience guide diagnostic, prognostic, and treatment decisions for individuals with DOC. Prior research on functional MRI (fMRI) activation patterns suggests that patients in MCS retain the neural circuits for receptive language and visual processing. This project tests a novel fMRI protocol that is designed to reliably detect conscious awareness in patients who may be unable to execute behavioral signs of active cognitive processing, using a hierarchical stimulation paradigm that systematically assesses levels of cognitive processing in the auditory and visual systems. In light of provocative findings suggesting that cognitive processing may be maintained in patients who appear to be unconscious on bedside examination, the investigation is extended to individuals with VS as well as those in MCS. A collaborative module extends prior investigations of the effectiveness of specialized, post-acute brain injury rehabilitation. This project is driven by the question of how to characterize the course of post-acute brain injury rehabilitation, and its impact on the long term outcomes of people with brain injuries. Although there is increasing evidence that postacute brain injury rehabilitation can improve functional outcomes after TBI, population-based outcome studies have generally not considered the influence of different pathways of postacute rehabilitation on outcomes after TBI. A longitudinal, observational study characterizes postacute rehabilitation in the TBI Model Systems, and examines the pathways of postacute rehabilitation in relation to casemix variables, patterns of service utilization, barriers to service delivery, and participants' perceived needs and satisfaction with treatment. This collaborative project examines the contribution of postacute rehabilitation to functional and psychosocial outcomes at one and two years after injury using multivariate analyses and causal modeling.

**Disability and Rehabilitation Research Projects**  
New Jersey

**Northern New Jersey Traumatic Brain Injury System (NNJT BIS)**

---

Kessler Foundation Research Center  
1199 Pleasant Valley Way  
West Orange, NJ 07052  
tbi@kesslerfoundation.org  
www.kesslerfoundation.org/research/lab/modelsys.php

**Principal Investigator:** Nancy D. Chiaravalloti, PhD; Bruce M. Gans, MD; 973/530-3640  
(Chiaravalloti); 973/324-3658 (Gans)

**Public Contact:** 973/530-3640; Fax: 973/324-3536

**Project Number:** H133A070037

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** A. Cate Miller, PhD

**NIDRR Funding:** FY 07 \$423,590; FY 08 \$423,590; FY 09 \$423,590

**Abstract:** The Northern New Jersey Traumatic Brain Injury System (NNJT BIS) conducts both a site-specific research study and a collaborative research module. These projects, both related to ongoing NIH-funded studies, contribute to evidence-based rehabilitation interventions and quality of life measurement to improve the lives of individuals with traumatic brain injury (TBI), as follows: (1) An innovative, double-blind, randomized controlled trial of a cognitive rehabilitation intervention utilizing a proven methodology shown to be effective with the multiple sclerosis population; and (2) a collaborative module that adapts, develops, and validates an innovative quality-of-life outcome measurement system for use in TBI intervention research. Each of these projects has been subjected to initial pilot testing to assure the applicability and feasibility of the methodology. The evaluation of this project is guided by a multifaceted approach, which uses a highly quantifiable, objective means of evaluating progress. This is supplemented by a Community Advisory Board, NNJT BIS Steering Committee, and an external Scientific Advisory Board, which provides feedback on a quarterly, annual, and bi-annual basis, respectively. In addition, project management staff meets internally on a regular basis to review data management and data quality issues and assure effective communication with Kessler Institute for Rehabilitation (KIR) and staff from the trauma centers. Finally, the NNJT BIS coordinates with the NIDRR-funded Model Systems Knowledge Translation Center at the University of Washington to provide scientific results and information for dissemination to clinical and consumer audiences. The NNJT BIS is a cooperative effort of the Kessler Foundation Research Center, KIR, and trauma centers from the University of Medicine and Dentistry of New Jersey - The New Jersey Medical School (UMDNJ-NJMS), Hackensack University Hospital, Morristown Memorial Hospital, and St. Joseph's Hospital.

**Disability and Rehabilitation Research Projects**  
New York

**New York Traumatic Brain Injury Model System (NYTBIMS)**

---

Mount Sinai School of Medicine  
Department of Rehabilitation Medicine  
Research and Training Center  
One Gustave L. Levy Place, Box 1240  
New York, NY 10029  
wayne.gordon@mssm.edu  
www.mssm.edu/tbicentral/nytbims/

**Principal Investigator:** Wayne A. Gordon, PhD  
**Public Contact:** 212/659-9372; Fax: 212/348-5901

**Project Number:** H133A070033

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 07 \$419,921; FY 08 \$419,920; FY 09 \$419,920

**Abstract:** The research program of The New York Traumatic Brain Injury Model System (NYTBIMS) aims to advance the understanding of traumatic brain injury (TBI) and develop better methods of treating secondary conditions of TBI, especially fatigue, mood, cognition, and sleep disorders. Research goals of this project are to: (1) demonstrate and evaluate a multidisciplinary system of care for persons with TBI in the New York City metropolitan area, including a number of innovative clinical programs; (2) contribute longitudinal data to the National Database of the TBI Model Systems program; and (3) conduct one module and two local studies to: (a) systematically study sleep architecture, insomnia, and other types of sleep disorders after TBI, to better understand post-TBI fatigue; and (b) evaluate the effectiveness of exercise as a treatment of post-TBI fatigue, mood, and cognition. Dissemination, education, and training activities constitute the third component of the NYTBIMS, including a policy newsletter, expanded web-based information, journal publications, presentations at national and local meetings, a newsletter for consumers, and several formal educational and training programs, including training of psychiatric residents as well as interns and postdoctoral researchers in psychology.

**Disability and Rehabilitation Research Projects**  
New York

**Classification and Measurement of Medical Rehabilitation  
Interventions**

---

Mount Sinai School of Medicine  
Department of Rehabilitation Medicine  
One Gustave L. Levy Place, Box 1240  
New York, NY 10029-6574  
marcel.dijkers@mssm.edu

**p:Principal Investigator:** Marcel Dijkers, PhD  
**Public Contact:** 212/659-8587; Fax: 212/348-5901

**Project Number:** H133A080053

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 08 \$350,000; FY 09 \$350,000

**Abstract:** The development of a Rehabilitation Treatment Taxonomy (RTT) covering all treatments (experience-based, medications, education, assistive devices, etc.) delivered in medical rehabilitation is a multi-year, multidisciplinary process requiring the interweaving of many different conceptual and empirical steps, which needs to be guided by an overall blueprint to direct and link individual efforts. This project develops such a blueprint, and performs research to explore strategies and methods that are needed to create and test the full RTT. Specifically, in phase 1, the project scrutinizes existing treatment literature for theories that underlie treatment; develops a theoretical framework; specifies performance requirements and practical constraints for an RTT; and reviews existing ad-hoc classifications for spinal cord injury (SCI), traumatic brain injury (TBI), stroke, and joint replacement rehabilitation for practicality. Researchers present the resulting blueprint for feedback at an interdisciplinary conference with representatives of all rehabilitation disciplines, revised as necessary in response to feedback, and, in phase 2, uses this feedback to develop two partial taxonomies: (a) of interventions to improve ambulation in persons with neurological disorders, and (b) of treatments of executive dysfunction after acquired brain injury. Evaluation of the process of development and operationalization of the taxonomy is used to modify, expand, and enhance the blueprint. A second interdisciplinary conference is used to present the modified blueprint to the rehabilitation field and obtain input on directions the field needs to take to develop the entire RTT.

## Carolinas Traumatic Brain Injury Rehabilitation and Research System (CTBIRRS)

---

Carolinas HealthCare System  
Carolinas Rehabilitation  
1100 Blythe Boulevard  
Charlotte, NC 28203  
fhammond@carolinas.org  
[www.carolinasrehabilitation.org/body.cfm?id=191](http://www.carolinasrehabilitation.org/body.cfm?id=191)

**Principal Investigator:** Flora M. Hammond, MD  
**Public Contact:** 704/355-4330; Fax: 704/355-0709

**Project Number:** H133A070042

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** A. Cate Miller, PhD

**NIDRR Funding:** FY 07 \$438,571; FY 08 \$438,571; FY 09 \$438,571

**Abstract:** The Carolinas Traumatic Brain Injury Rehabilitation and Research System (CTBIRRS) is a comprehensive service delivery and research system serving individuals with traumatic brain injury (TBI). The System begins with prevention and emergency medical services and extends through intensive care, acute care, and comprehensive medical rehabilitation to long-term follow-up, community reintegration, and vocational rehabilitation. The research of this Model System focuses on the challenging problem of post-traumatic irritability and aggression using a comprehensive, rigorous approach to generate and disseminate new knowledge on this high impact, pervasive, and understudied problem. This approach to understanding irritability entails two randomized, controlled studies that build on a solid base of prior research by the investigators in this area: (1) a multi-center module study: "A Multi-Center, Parallel-Group, Randomized, Double-Blind, Placebo-Controlled Trial of Amantadine Hydrochloride for the Treatment of Chronic TBI Irritability and Aggression: A Replication Study"; and (2) a local research study: "Carbamazepine for the Treatment of Chronic Post-TBI Irritability and Aggression: A 42-day Single-Site, Forced-Titration, Parallel-Group, Randomized, Double-Blind, Placebo-Controlled Trial." The research studies were developed with in-depth input from the TBI community, with a solid plan for continued input along the course of the project through all aspects including research implementation, interpretation of findings, knowledge translation, project planning, and evaluation. The evaluation plan is directly linked to the target impacts, and provides a list of clear criteria to facilitate project administration, judge success, ensure dissemination of findings, and provide iterative feedback. CTBIRRS utilizes innovative means of knowledge translation to target audiences (consumers, providers, researchers, third party payers, policy makers), including a consumer conference, provider skill packs and workshops, fact sheets, tip cards, surveys of current practices, peer-reviewed publications, scholarly presentations, and evidence-based reviews. The project evaluates target familiarity with the subject matter and product usefulness. The CTBIRRS project collaborates with the Model System Knowledge Translation Center to disseminate materials that integrate project findings within the larger body of research on post-TBI behavioral management.

**Disability and Rehabilitation Research Projects**  
North Carolina

**TBI Model System Collaborative Study of Amantadine for Post TBI  
Irritability and Aggression**

---

Carolinas Rehabilitation  
1100 Blythe Boulevard  
Charlotte, NC 28232  
flora.hammond@carolinashealthcare.org  
www.carolinasrehabilitation.org/body.cfm?id=200

**i:Principal Investigator:** Flora M. Hammond, MD  
**Public Contact:** 704/355-4330; Fax: 704/355-0709

**Project Number:** H133A080035

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** A. Cate Miller, PhD

**NIDRR Funding:** FY 08 \$855,000; FY 09 \$855,000

**Abstract:** This study focuses on the challenging problem of irritability (primary aim) and aggression (secondary aim) in post-traumatic brain injury by using a rigorous approach to generate and disseminate new knowledge on this high impact, pervasive, and under-studied problem that affects approximately 29-71 percent of individuals with traumatic brain injury (TBI). Building upon prior research, project goals include: (1) assess the effect of amantadine for 28 days at reducing TBI irritability; (2) assess the effect of amantadine for 28 days at reducing TBI aggression; (3) assess the effect of amantadine for 60 days on TBI irritability and aggression; and (4) assess the effect of amantadine on cognitive function following TBI. Continuous input from the TBI community is incorporated into the development and implementation of the project, and throughout the course of this project in the areas of research implementation, interpretation of findings, knowledge translation, project planning, and evaluation. Additionally, this project is a collaborative research partnership between five other prominent TBI research centers: University of Washington, The Institute for Rehabilitation and Research, The Ohio State University, Kessler Institute for Rehabilitation, and Spaulding Rehabilitation Hospital. The knowledge generated by this project benefits those living with TBI by increasing awareness through targeted products and training with healthcare providers, consumers, researchers, vocational counselors, independent living providers, third party payers, and policy makers.

## Disability and Rehabilitation Research Projects

Ohio

### Ohio Regional TBI Model System

---

Ohio Valley Center for Brain Injury Prevention and Rehabilitation  
Department of Physical Medicine and Rehabilitation  
Ohio State University  
Dodd Rehabilitation Hospital  
480 Medical Center Drive  
Columbus, OH 43210  
brello.1@osu.edu  
www.ohiovalley.org

**Principal Investigator:** John D. Corrigan, PhD; Jennifer Bogner, PhD; 614/293-3830

**Public Contact:** 614/293-8879; Fax: 614/293-6521

**Project Number:** H133A070029

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Delores Watkins

**NIDRR Funding:** FY 07 \$434,393; FY 08 \$457,354; FY 09 \$434,353

**Abstract:** This project includes one local research project and a collaborative research module. The local project is an extension of two previous randomized clinical trials in which a targeted financial incentive was found efficacious for engaging and retaining persons with traumatic brain injury (TBI) in substance abuse treatment. The current study investigates the efficacy of a financial incentive for engendering attendance at work as persons with TBI and substance use disorders initiate employment. The collaborative research module replicates and extends a preliminary study recently completed at OSU. That project used geographic identifiers to compile data about the social and economic characteristics of a person's neighborhood. Researchers then examined the contribution of these environmental factors to outcomes from TBI. The current module contributes to an evaluation of the utility of adding a geographic identifier, based on a person's residence at follow-up, to the TBI Model Systems National Dataset. With this identifier, future Model Systems researchers could access an ever-growing array of information about the environment and link it to Model Systems data about an individual's outcome. Dissemination efforts include "SynapShots", an educational website produced with the Brain Injury Association of America, and a systematic review of Screening and Brief Interventions for the Model Systems Knowledge Translation Center.

**Disability and Rehabilitation Research Projects**  
Ohio

**Individualized Planning for the First Year Following Acute  
Rehabilitation Project**

---

Ohio State University  
1166 Dodd Rehab Hospital  
480 Medical Center Drive  
Columbus, OH 43210  
brello.1@osu.edu  
www.ohiovalley.org

**Principal Investigator:** John D. Corrigan, PhD

**Public Contact:** Jennifer Brello, Med 614/293-8879; Fax: 614/293-4870

**Project Number:** H133A080023

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** A. Cate Miller, PhD

**NIDRR Funding:** FY 08 \$854,780; FY 09 \$854,881

**Abstract:** The Individualized Planning for the First Year Following Acute Rehabilitation Project is a multi-center research partnership among the Ohio Regional TBI Model System, the Institute for Clinical Outcomes Research in Salt Lake City, Utah, and the TBI Model Systems National Data and Statistical Center and the Rocky Mountain Regional Brain Injury System at Craig Hospital in Colorado. This project conducts a Practice Based Evidence (PBE) study of individual differences in demographic characteristics, pre-morbid status, injury-related conditions, and medical course that differentially predict the effectiveness of rehabilitation interventions on functional independence, participation, and subjective well-being up to one year following traumatic brain injury (TBI). Incorporating data collected for the NIH-funded PBE study, this project focuses on acute rehabilitation, and on the recovery processes occurring after discharge from rehabilitation. PBE methodology studies naturally occurring differences in treatment practices in order to identify individual differences in treatment effectiveness. It allows a large number of intervention-by-impairment interactions to be examined, while individual patient differences, including severity of TBI and medical complications, are controlled. Data is collected at 10 TBI rehabilitation programs in the United States and Canada: Ohio Regional TBI Model System, Carolinas TBI Model System, New York TBI Model System at Mt. Sinai, National Rehabilitation Hospital, Shepherd Center, Intermountain Medical Center, Rush University Medical Center, Brooks Rehabilitation Hospital, Loma Linda University Rehabilitation Institute, and the Toronto Rehabilitation Institute. Research subjects are 2,315 consecutive, consenting patients admitted for rehabilitation of a moderate or severe TBI. Interviews occur at 3 and 6 months post-discharge and 1 year post-injury allowing for detailed characterization of change during the first year of recovery.

**Disability and Rehabilitation Research Projects**  
Oregon

**Health and Health Care Disparities Among Individuals with Disabilities**

Oregon Health and Science University  
Child Development and Rehabilitation Center  
P.O. Box 574  
Portland, OR 97239

**Principal Investigator:** Charles Drum, PhD 503/494-8364

**Public Contact:** Susan Wingefeld 503/494-3533; Fax: 503/494-6868

**Project Number:** H133A080031

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 08 \$450,000; FY 09 \$450,000

**Abstract:** The Health Disparities Project generates new knowledge about health access and health outcomes, and translates and disseminates the findings for researchers, policy makers, and others. Assisted by an assembled national expert panel and other key project staff, the project determines working definitions, key questions, and analytic models for the studies. Disability perspectives are integrated throughout the project process from development of the research hypotheses and selection of design to analysis of data. This project has four major components: (1) review and synthesize existing health and health care access among individuals with disabilities and subgroups of individuals with disabilities; (2) use the Medical Expenditure Survey data to perform two series of logistic regression and path analysis modeling studies; the first series of studies determines models of systems level, environmental level, and individual level factors that relate to health care access among persons with a range of disabilities; the second series extends these analyses to determine models of health outcomes for persons with a range of disabilities; (3) utilize research findings in future research, program, and policy development through proactive and passive dissemination methods; and (4) integrate project activities to ensure the field of health disparities research advances beyond documentation to explanation, and opportunity for resolution.

**Disability and Rehabilitation Research Projects**  
Pennsylvania

---

**The Moss Traumatic Brain Injury Model System**

---

Albert Einstein Healthcare Network  
Moss Rehabilitation Research Institute  
60 East Township Line Road  
Elkins Park, PA 19027  
thart@einstein.edu  
[www.einstein.edu/facilities/mossrehab/index.html](http://www.einstein.edu/facilities/mossrehab/index.html)

**Principal Investigator:** Tessa Hart, PhD

**Public Contact:** 215/663-6153; Fax: 215/663-6113

**Project Number:** H133A070040

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** A. Cate Miller, PhD

**NIDRR Funding:** FY 07 \$434,399; FY 08 \$434,399; FY 09 \$434,399

**Abstract:** The Moss TBIMS includes two site-specific research projects embedded within a state-of-the-art traumatic brain injury (TBI) treatment and clinical research facility. Project 1 is a placebo-controlled pilot study of the effects of dextroamphetamine (DEX) on attention, engagement in therapy, cognitive and motor speed, and other outcomes in subacute TBI. This project also examines the possibility that DEX accelerates the pace of functional recovery in the subacute phase. Project 2 is a cross-national collaboration with a specialty TBI service in a Copenhagen hospital, which has many similarities to the Moss TBIMS in terms of patient mix, treatment philosophy, and cultural milieu. The Copenhagen facility provides significantly longer and, in some respects, more intensive inpatient care and rehabilitation compared to Moss (and other US rehabilitation facilities), even for patients with comparable injury severity. This affords a natural experiment in which persons with TBI treated at the two facilities are compared on a range of 6- and 12-month outcomes, including functional status, emotional well-being and quality of life, and caregiver burden. The Moss TBIMS also collaborates in multi-center longitudinal database research and collaborative module projects. In addition, extensive knowledge translation projects provide evidence-based skills and knowledge enhancement for clinicians specializing in TBI care and for consumers via collaboration with the Brain Injury Association of Pennsylvania.

**Disability and Rehabilitation Research Projects**  
Texas

---

**North Texas Burn Rehabilitation Model System (NTBRMS)**

---

The University of Texas Southwestern Medical Center  
Department of Physical Medicine and Rehabilitation  
5323 Harry Hines Boulevard  
Dallas, TX 75390-9136  
radha.holavanahalli@utsouthwestern.edu  
www.utsouthwestern.edu/utsw/home/research.ntbrms

**Principal Investigator:** Karen Kowalske, MD 214/648-2288

**Public Contact:** Radha Holavanahalli, PhD 214/648-9540; 214/648-3654; Fax: 214/648-2005

**Project Number:** H133A070024

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 07 \$362,500; FY 08 \$362,500; FY 09 \$362,500

**Abstract:** The North Texas Burn Rehabilitation Model System (NTBRMS) includes one collaborative research module project entitled “Long-Term Follow-up of the Burn Model System National Database Sample (LTF=NDS)” and two site specific research studies entitled “Biomechanical Properties of Burn Scar” and “Efficacy of Social Interaction Skills Training Post Burn Injury.” Collaboration occurs on many levels at the NTBRMS. Clinical collaboration is the hallmark of the burn team, which includes individuals from several institutions who work together seamlessly as well as collaboration with our rural care providers through outreach clinics. Research collaboration occurs locally with the surgeons and academic computing and nationally with the other model systems. The evaluation plan specifically focuses on the overall objectives for demonstration, research, and dissemination with specific quantifiable targets, which are reassessed quarterly. Dissemination of NTBRMS materials occurs at many levels and in a variety of formats: lectures by key personnel, publication in peer reviewed journals, a quarterly newsletter, and an accessible website available in English and Spanish. The NTBRMS collaborates with NIDRR-funded Model Systems Knowledge Translation Center (MSKTC) by participating in its systematic reviews of evidence and facilitating knowledge management by identifying the information needs and barriers among the various stakeholders both at national and local levels.

## Disability and Rehabilitation Research Projects

Texas

### North Texas Traumatic Brain Injury Model System (NT-TBIMS)

---

The University of Texas Southwestern Medical Center  
Department of Neurology  
5323 Harry Hines Boulevard  
Dallas, TX 75390-9036  
caryn.harper@utsouthwestern.edu  
[www.utsouthwestern.edu/utsw/home/research/neurology/tbi/index.html](http://www.utsouthwestern.edu/utsw/home/research/neurology/tbi/index.html)

**Principal Investigator:** Ramon R. Diaz-Arrastia, MD, PhD 214/648-6409

**Public Contact:** Caryn R. Harper, MS, Project Manager 214/648-7613; Fax: 214/648-3143

**Project Number:** H133A070027

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 07 \$430,350; FY 08 \$430,350; FY 09 \$430,350

**Abstract:** This project provides comprehensive continuum of care for traumatic brain injury (TBI) from the time of arrival at the emergency department through the intensive care unit, inpatient and outpatient rehabilitation, and long-term follow-up after community integration. The project conducts two local research projects aimed at furthering the goal of developing novel therapies and tailoring these therapies to individual patients: (1) Phase II randomized, placebo-controlled clinical trial to determine whether therapy with recombinant human growth hormone (rhGH) during the acute rehabilitation period after TBI results in improved functional outcome; and (2) an observational study using magnetic resonance imaging (MRI) during the acute rehabilitation period to validate the use of Diffusion Tensor Imaging as a biomarker of diffuse axonal injury. Additionally, the NT-TBIMS works collaboratively with other TBI-MS Health Module members in a modular project to develop a Brain Injury Assessment Scale, which allows reliable and validated assessment of sensorimotor impairments after TBI. The goal is that this scale be as useful in the TBI field as the NIH Stroke Scale has been in clinical trials in stroke. Finally, the NT-TBIMS provides patient and family education, and dissemination of research findings to the professional community by conducting seminars, presenting the results at professional meetings, and publishing in professional and lay journals devoted to TBI.

**Disability and Rehabilitation Research Projects**  
Texas

## **Pediatric Burn Injury Rehabilitation Model System**

---

University of Texas Medical Branch  
815 Market Street, Route 1220  
Galveston, TX 77550  
dherndon@utmb.edu; patblakeney@earthlink.net; Jlbailey@utmb.edu

**Principal Investigator:** David Herndon, MD 409/770-6731

**Public Contact:** Pat Blakeney, PhD 409/770-6718 or 713/661-1745; 409/770-6731; Fax: 713/661-2871; 409/770-6919

**Project Number:** H133A070026

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 07 \$362,500; FY 08 \$362,500; FY 09 \$362,500

**Abstract:** This program conducts independent and multi-center projects focusing on evaluating and improving the rehabilitation provided to children with burn injuries, striving to decrease disability and improve reintegration into society. The model system includes one collaborative project assessing the efficacy of long term use of propranolol in the treatment of burn injury (in adults and children) with endpoints of improved survivability, improved cardiovascular condition, greater energy, improved muscle endurance, improved growth in children, and decreased anxiety. The project also includes a site-specific study to improve rehabilitative outcomes for children with greater than 40 percent total body surface area burned by combining an anabolic agent (oxandrolone, Ketoconazole, or propranolol) with a 3-month intensive outpatient rehabilitation program. The supervised exercise program has shown to be effective in ameliorating effects of the hypermetabolic response. This project assesses the effectiveness of combining the anabolic agents and the exercise program with the expectation that the effects will be additive and will improve linear growth, bone mass, muscle strength, lean body mass, physical function, and general well-being. The last study, also site specific, is a continuation from the previous funding cycle. It focuses on Acute Stress Disorder (ASD) and Post Traumatic Stress Disorder (PTSD), a problem that impairs the well-being of burn patients. The study follows children with ASD to assess the relationship of the two disorders and to elucidate a history of the development of PTSD.

**Disability and Rehabilitation Research Projects**  
Texas

---

**The Texas Traumatic Brain Injury Model System of TIRR**

---

The Institute for Rehabilitation and Research (TIRR)  
1333 Moursund Avenue  
Houston, TX 77030  
mark.sherer@memorialhermann.org  
[www.memorialhermann.org/locations/tirr/forhealthprofessionals/content.aspx?id=1162](http://www.memorialhermann.org/locations/tirr/forhealthprofessionals/content.aspx?id=1162)

**Principal Investigator:** Mark Sherer, PhD

**Public Contact:** 713/799-7007

**Project Number:** H133A070043

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Pimjai Sudsawad, ScD

**NIDRR Funding:** FY 07 \$430,350; FY 08 \$430,350; FY 09 \$430,350

**Abstract:** The Texas TBI Model System of TIRR conducts a program of research, dissemination activities, and clinical care designed to address social relationships and to improve outcomes for persons with traumatic brain injury (TBI). Research activities include: (1) contributions to the TBI Model Systems National Database, (2) a collaborative, multi-center, research module project on sexuality after TBI, and (3) a local project on social communication difficulties after TBI. A collaborative project on sexuality determines the frequency, type, and severity of changes in sexual functioning after TBI. As part of this project, researchers conduct the first randomized, clinical trial of an intervention to increase satisfaction with sexual functioning and comfort level in discussing sexual issues for persons with TBI and their partners. A local project on social communication conducts a randomized clinical trial of an intervention to improve social communication skills and social integration for persons with TBI, with the largest sample size of any similar study and one of only two randomized controlled trials conducted in this area for over 20 years.

**Disability and Rehabilitation Research Projects**  
Virginia

**Virginia Commonwealth Traumatic Brain Injury Model System**

---

Virginia Commonwealth University  
Department of Physical Medicine and Rehabilitation  
Box 980542  
Richmond, VA 23298-0452  
jhmarwit@vcu.edu  
www.tbi.pmr.vcu.edu

**Principal Investigator:** Jeffrey S. Kreutzer, PhD 804/828-9055

**Public Contact:** Jennifer Marwitz 804/828-3704; Fax: 804/828-2378

**Project Number:** H133A070036

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 07 \$426,720; FY 08 \$426,720; FY 09 \$426,720

**Abstract:** This project utilizes rigorous scientific methods to examine the benefits of intervention for survivors of traumatic brain injury (TBI) and their families before and after inpatient rehabilitation discharge. Traumatic Brain Injury Model Systems (TBIMS) and other researchers have expended considerable energy delineating outcomes. For example, researchers have thoroughly documented problems after injury, including memory disturbance, impaired self-awareness, executive skills dysfunction, slowness, visual dysfunction, poor motor coordination, and behavioral disorders. Recent studies have identified a high prevalence of depression, with many survivors reporting feelings of hopelessness, diminished self-esteem, and social isolation. Brain injury also affects the family system; family members commonly describe emotional distress, lack of respite, financial stress, and lack of community support. Projects at the Model System focus on both survivors and families. One study is a randomized controlled trial to examine the efficacy of a structured approach to the treatment of acute cognitive and neurobehavioral problems. A second study is a randomized controlled trial to examine the benefits of an intervention program for family crisis and support.

**Disability and Rehabilitation Research Projects**  
Washington

**University of Washington Burn Model System**

---

University of Washington  
Department of Surgery, Division of Plastic Surgery  
Harborview Medical Center  
325 Ninth Avenue  
Box 359796  
Seattle, WA 98104  
engrav@u.washington.edu  
depts.washington.edu/uwnidrr/

**Principal Investigator:** Loren H. Engrav, MD  
**Public Contact:** 206/731-3209; Fax: 206/731-3656

**Project Number:** H133A020103

**Start Date:** October 01, 2002

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 02 \$300,000; FY 03 \$300,000; FY 04 \$300,000; FY 05 \$300,000; FY 06 \$300,000; FY 07 (No-cost extension through 9/30/2008); FY 08 (No-cost extension through 12/31/2009)

**Abstract:** This model system conducts five research projects: (1) A New Approach to the Etiology of Hypertrophic Scarring develops an increased understanding of hypertrophic scarring. (2) Effect of Virtual Reality on Active Range-of-Motion During Physical Therapy uses distraction via immersive virtual reality as an adjunctive non-pharmacologic analgesic. This study tests the hypothesis that virtual reality allows patients to tolerate greater stretching during physical therapy compared to no distraction, and that in spite of achieving greater range-of-motion, patients still experience lower pain levels while in virtual reality. (3) Determination of Reasons for Distress in Burn-Injured Adults identifies reasons behind a burn survivor's distress at various time-points after hospital discharge. (4) Barriers for Return to Work identifies specific barriers to return to work for burn survivors. (5) Acute Stress Disorder Among Burn Survivors evaluates the effectiveness of cognitive-behavioral therapy, relative to a non-directive, supportive therapy control group, and a national comparison sample in reducing the prevalence of posttraumatic stress disorder diagnosis and symptom severity. Projects 4 and 5 are collaborative. In addition, this project participates in the national database.

**Disability and Rehabilitation Research Projects**  
Washington

**The Effect of Scheduled Telephone Intervention on Outcomes After  
Traumatic Brain Injury (TBI)**

---

University of Washington  
Department of Rehabilitation Medicine  
Box 356490, BB-953 Health Sciences  
Seattle, WA 98195  
krbell@u.washington.edu  
depts.washington.edu/rehab/tbi

**Principal Investigator:** Kathleen R. Bell, MD  
**Public Contact:** 206/685-0935; Fax: 206/685-3244

**Project Number:** H133A040004

**Start Date:** December 01, 2004

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 04 \$600,000; FY 05 \$600,000; FY 06 \$600,000; FY 07 \$600,000; FY 08 \$600,000

**Abstract:** This project evaluates the effect of scheduled telephone intervention (STI) on functional and health outcomes, at weeks 1-2, 4, 8, and 12, and months 5, 7, and 9 on functional level, health and emotional status, community integration, and perceived quality of well-being over 1 year after traumatic brain injury (TBI). This a low-cost, easily-implemented intervention is trialed in three states. Timely intervention to identify problems after TBI, to teach patients and their families coping techniques within their own communities and support their independent decision-making, may effectively decrease the need for expensive and often inaccessible services and may improve the quality of life for survivors of TBI. Researchers are evaluating the effect of additional STI at months 15, 18, and 21 on the same variables and employment at 2 years after TBI. Research examines whether the effects of such intervention are similar in multiple sites over a wide geographic area. It also examines the differential impact of the intervention in demographic subgroups, with particular attention to minority versus non-minority racial and ethnic populations.

**Disability and Rehabilitation Research Projects**  
Washington

**Controlled Trial of Venlafaxine XR for Depression After SCI: A  
Multisite Study**

---

University of Washington  
Department of Rehabilitation Medicine  
Harborview Medical Center  
325 9th Avenue  
Seattle, WA 98104  
chb@u.washington.edu  
sci.washington.edu

**Principal Investigator:** Charles H. Bombardier, PhD

**Public Contact:** Christian Buhagia 206/897-4731; Fax: 206/897-4790

**Project Number:** H133A060107

**Start Date:** January 01, 2007

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 06 \$2,198,213; FY 07 \$899,981; FY 08 \$899,982; FY 09 \$899,974

**Abstract:** This project is a multisite, randomized, double-blind, placebo controlled trial of venlafaxine XR (Effexor XR) in 168 adults with spinal cord injury (SCI) and major depressive disorder (MDD) who are 18-65 years old and one or more years post injury. The purpose of the study is to examine the efficacy and tolerability of venlafaxine XR as a treatment for MDD. The primary outcome is the percent of responders (those who report at least a 50% reduction in depression severity from baseline to the end of treatment) in the venlafaxine XR versus placebo control group using intent-to-treat analysis. Secondary outcomes include changes in pain, health related quality of life, and participation. A successful clinical trial could lead to more aggressive identification and treatment of MDD as well as improved health and quality of life in this important population. This is a collaborative project with the Northwest Regional Model Spinal Cord Injury System.

**Disability and Rehabilitation Research Projects**  
Washington

**University of Washington Burn Model System**

---

University of Washington  
Department of Surgery, Division of Plastic Surgery, Department of Rehabilitation Medicine  
Harborview Medical Center  
325 Ninth Avenue; Box 359796  
Seattle, WA 98104  
engrav@u.washington.edu  
depts.washington.edu/uwnidrr

**Principal Investigator:** Loren H. Engrav, MD; Peter C. Esselman, MD

**Public Contact:** 206/731-3209; Fax: 206/731-3656

**Project Number:** H133A070047

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 07 \$362,458; FY 08 \$362,459; FY 09 \$362,453

**Abstract:** The University of Washington Burn Model System includes one multi-site, collaborative project, and two site-specific projects. Project 1: Psychological and Social Needs of Long Term Survivors of Major Burn Injury is a collaborative study (lead center Baltimore) to identify the needs of persons 5 and 10 years after injury. Project 2 (Site-Specific): Expanded Delivery Model for Burn Rehabilitation incorporates a novel intervention, an “expanded care provider”, who enables clinicians to “reach out” to individuals with burn injury and for them to “reach in” to care providers whenever care is needed, rather than on a rigid schedule to determine if this improves burn rehabilitation outcomes. In a randomized trial, Group 1 receives standard outpatient clinic-based rehabilitation. Group 2 has an additional care provider who uses multiple modalities to manage the multifaceted sequelae of thermal injury. Outcomes are assessed using an individualized Goal Attainment Scale and the validated Burn Specific Health Scale. Project 3 (Site Specific): Identification of the Pathways to Scarring utilizes bioinformatics tools to identify gene expression pathways associated with hypertrophic scarring. In addition, we contribute long-term follow-up data to the national database maintained at the University of Colorado in Denver.

**Disability and Rehabilitation Research Projects**  
Washington

**University of Washington Traumatic Brain Injury Model System**

---

University of Washington  
Department of Rehabilitation Medicine  
Box 356490, BB-953 Health Sciences  
Seattle, WA 98195  
krbell@u.washington.edu  
depts.washington.edu/rehab/tbi

**4:Principal Investigator:** Kathleen R. Bell, MD  
**Public Contact:** 206/685-0935; Fax: 206/685-3244

**Project Number:** H133A070032

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 07 \$430,349; FY 08 \$430,348; FY 09 \$430,346

**Abstract:** University of Washington's Traumatic Brain Injury Model System (UWTBIMS) provides a comprehensive, integrated continuum of medical, surgical and rehabilitation services to persons with acute and chronic traumatic brain injury (TBI). This project conducts two site-specific projects. The first is a randomized controlled intervention study evaluating the effect of a structured, telephone-based mentoring program for caregivers focusing on self-management skills. This study builds upon previous experiences with telephone counseling for both people with traumatic brain injury and multiple sclerosis. This research is particularly important because caregivers are so crucial to the successful rehabilitation and community re-integration of persons with TBI and the literature on successful interventions for this population is so sparse. The use of a telephone-based program allows researchers to reach those (especially in rural regions) who lack ready access to knowledgeable advice, behavior change support, and specialty care sufficient to maintain the health of their significant other and themselves. The second project utilizes a large and rich database to predict a number of important long-term outcomes. The modular project studies the natural history of headache under conditions of usual care during the first year after TBI. This project characterizes the course and nature of headache, a common but poorly studied consequence of TBI. It examines the impact of headache on outcome and its potential modifiers, describes patient treatment preferences, and lays the foundation for a multi-site clinical trial.

## Model Spinal Cord Injury Systems

Alabama

### UAB Model Spinal Cord Injury Care System

---

University of Alabama/Birmingham  
Spain Rehabilitation Center  
619 - 19th Street South SRC 529  
Birmingham, AL 35249-7330  
mott@uab.edu  
main.uab.edu/show.asp?durki=10712

**Principal Investigator:** Amie B. Jackson, MD 205/934-3330

**Public Contact:** Pamela K. Mott, Director, Research Services 205/934-3283 (V); 205/934-4691 (TTY); Fax: 205/975-4642

**Project Number:** H133N060021

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 06 \$474,471; FY 07 \$474,471; FY 08 \$474,471; FY 09 \$474,417

**Abstract:** The University of Alabama at Birmingham provides rehabilitation services specifically designed to meet the special needs of individuals with spinal cord injury (SCI) through its multidisciplinary, comprehensive Spinal Cord Injury Care System (UAB-SCICS). The UAB-SCICS spans the clinical continuum from emergency services through rehabilitation and community re-entry. The System's research includes one collaborative research module and two in-house research projects, all of which ultimately aim at improving the health and function of its constituents. The collaborative research module involves the validation of an outcome measure for functional recovery. One in-house research project involves the assessment of the predictive value of key parts of the neurological exam for return of bladder function; the second is an investigation of the effect of nicotine on different types of SCI pain. The project continues to benefit from the active involvement of persons with SCI in the design and execution of the proposed activities. Project results are disseminated via a variety of accessible formats and venues for both professionals and persons with SCI and their families. A detailed plan of operation ensures timely completion of project goals and tasks. Finally, an evaluation plan has been designed to assess the quality and timeliness of project outcomes and dissemination, as well as short and long term impacts of project activities. Activities of the UAB-SCICS reflect an active partnership both within the components of UAB's health system and between UAB, the Lakeshore Foundation, and the Birmingham VA Medical Center. The project continues as a participant in data collection activities for the National Spinal Cord Injury Statistical Center.

**Model Spinal Cord Injury Systems**  
Colorado

---

**The Rocky Mountain Regional Spinal Injury System**

---

Craig Hospital  
3425 South Clarkson Street  
Englewood, CO 80113  
susie@craighospital.org  
www.craighospital.org/Research/SCIMain.asp

**Principal Investigator:** Daniel P. Lammertse, MD; Susan Charlifue, PhD; 303/789-8220

**Public Contact:** Susan Charlifue, PhD 303/789-8306 (V); 303/789-8575 (TTY); Fax: 303/789-8441

**Project Number:** H133N060005

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 06 \$489,000; FY 07 \$489,000; FY 08 \$489,000; FY 09 \$489,000

**Abstract:** The Rocky Mountain Regional Spinal Injury System (RMRSIS) goals are to: (1) implement a program of research focusing on the immediate and long-term health, function, and community integration and participation of people with spinal cord injury (SCI); (2) improve its existing lifetime system of care for people with SCI; and (3) continue exemplary participation in the National SCI Database. A site-specific study determines if high vs. low tidal volumes are more effective in achieving ventilator weaning for individuals with high level tetraplegia, using a randomized clinical trial design. A collaborative research module study involves the development of a reliable, valid measurement tool to assess community participation. RMRSIS includes two Level I trauma centers with specialized acute neurotrauma care facilities (St. Anthony Hospital and Swedish Medical Center) and the rehabilitation and lifetime follow-up services of Craig Hospital.

**Model Spinal Cord Injury Systems**  
District of Columbia

---

**National Capital Spinal Cord Injury Model System**

---

National Rehabilitation Hospital  
MedStar Research Institute  
102 Irving Street, NW  
Washington, DC 20010  
www.sci-health.org; www.ncscims.org

**Principal Investigator:** Suzanne L. Groah, MD 202/877-1196

**Public Contact:** Donal Lauderdale, MSE 202/877-1425; Fax: 202/726-7521

**Project Number:** H133N060028

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 06 \$449,417; FY 07 \$449,417; FY 08 \$449,417; FY 09 \$449,417

**Abstract:** The National Capital Spinal Cord Injury Model System (NCSCIMS) serves Washington, DC and the nation. By focusing on the frequent and costly complication of pressure ulcers (PU), the NCSCIMS leverages two unique strengths: an existing Rehabilitation Research and Training Center on spinal cord injury (SCI) that focuses on reduction of secondary conditions, and the population of Washington, DC, which is predominantly composed of underserved individuals. The Center includes two site-specific and one modular project and describes a system of care that meets SCIMS priorities: Site Specific Project 1 is a Practice-Based Evidence (PBE) project specifically focused on PU prevention for all individuals with SCI and/or disease (SCI/D) during the acute and rehabilitative phases of care (to evolve to the community in later phases). The PBE approach allows a detailed examination of the effects of methods, modalities, and therapies utilized in rehabilitation to prevent PUs, which are often based on evidence-based medicine, but in reality may not be extrapolated to the broader population with SCI/D. In this project, researchers aim to utilize a PBE approach to augment evidence-based practice while addressing a critical secondary complication for individuals with SCI. Site Specific Project 2 is an SCI Navigator pilot project that combines elements of Peer Mentoring and Patient Navigation to decrease the occurrence of PUs once the individual has returned to the community. In this project, an SCI Navigator assists people with newly-acquired SCI in the transition from inpatient rehabilitation to the community, within the framework of an, at times, dysfunctional healthcare system. The NCSCIMS works with the Model System at the University of Pittsburg to explore Assistive Technology for Mobility (ATM). In this project, researchers investigate the degree to which inadequate wheelchair technology is the factor preventing people with SCI from doing more, work to understand the impact of changes in wheelchair reimbursement, and fully explore the issue of disparity in ATM prescription.

**Model Spinal Cord Injury Systems**  
Georgia

---

**Georgia Regional Spinal Cord Injury Care System**

---

Shepherd Center, Inc.  
Crawford Research Institute  
2020 Peachtree Road Northwest  
Atlanta, GA 30309-1465  
lesley\_hudson@shepherd.org  
www.shepherd.org

**Principal Investigator:** David F. Apple, Jr., MD; Lesley M. Hudson; 404/350-7353

**Public Contact:** Lesley M. Hudson 404/350-7591; Fax: 404/355-1826

**Project Number:** H133N060009

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 06 \$474,417; FY 07 \$474,417; FY 08 \$474,417; FY 09 \$474,417

**Abstract:** The Georgia Regional Spinal Cord Injury Care System admits approximately 200 individuals annually with acute onset paralysis secondary to spinal cord injury (SCI), and collects post-discharge data on 600 individuals each year. Its patient population comes primarily from Georgia, the rest of the Southeast, and the Eastern Seaboard. The continuum of care begins at injury and continues through transport, assessment, acute care, rehabilitation, emotional adjustment, community reintegration, and lifetime follow-up. The project continues a long record of comprehensive and timely collection of data on subjects who meet the inclusion criteria in three categories: inpatient hospitalization; longitudinal collection at 1, 5, 10, 15, 20, and 25 years post-injury; and registry. In addition to continued model system research, the project conducts two site specific research projects: (1) Psychological Status During Inpatient Rehabilitation and One Year After Onset: Stress, Coping, and Expectation Hope for Recovery; (2) Development and Validation of a Clinical Measure of Wheelchair Seat Cushion Degradation. The project also manages a collaborative data collection research module entitled Impact of SCI on Labor Market Participation.

**Model Spinal Cord Injury Systems**  
Illinois

**Midwest Regional Spinal Cord Injury Care System (MRSCIS)**

---

Rehabilitation Institute of Chicago  
345 East Superior Street, Room 1146  
Chicago, IL 60611

[www.ric.org/research/centers/MidwestRegionalSpinalCordInjuryCareSystem/MRSCICS.aspx](http://www.ric.org/research/centers/MidwestRegionalSpinalCordInjuryCareSystem/MRSCICS.aspx)

**Principal Investigator:** David Chen, MD

**Public Contact:** 312/238-0764

**Project Number:** H133N060014

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 06 \$484,000; FY 07 \$484,000; FY 08 \$484,000; FY 09 \$482,162

**Abstract:** The Spinal Cord Injury Rehabilitation Program at the Rehabilitation Institute of Chicago and the Acute Spinal Cord Injury Program at Northwestern Memorial Hospital demonstrate the ongoing, comprehensive, multidisciplinary services that are provided to individuals with spinal cord injury (SCI) which allow them to optimize their rehabilitation outcomes and enhance their ability to return to productive, independent living in the community. In order to contribute to the improvement of outcomes for persons with SCI, the System conducts two site-specific research projects: (1) Development of Low-Cost Devices to Increase Delivery of Intensive Treadmill Training, and (2) Disparities in Access to and Outcomes of Rehabilitation Care for Medicare and Medicaid Beneficiaries with Spinal Cord Injury. In addition, the project includes collaboration on one research project, Assistive Technology for Mobility (ATM) Module. MRSCICS has the capacity to enroll 140 individuals from culturally diverse backgrounds with new spinal cord injuries annually into the Spinal Cord Injury Model Systems database, and collect follow-up data on individuals enrolled between 1973 and 2000.

**Model Spinal Cord Injury Systems**  
Massachusetts

---

**The New England Regional Spinal Cord Injury Center**

---

Boston University Medical Center  
Department of Rehabilitation Medicine  
Preston F-511  
732 Harrison Avenues  
Boston, MA 02118-2393  
jane.wierbicky@bmc.org  
[www.bmc.org/spinalcordinjurycenter/research.htm](http://www.bmc.org/spinalcordinjurycenter/research.htm)

**Principal Investigator:** Steve Williams, MD

**Public Contact:** Jane Wierbicky; Bethlyn Houlihan; 617/638-7316 (Wierbicky); 617/638-7380 (Houlihan); Fax: 617/638-7303

**Project Number:** H133N060024

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 06 \$464,417; FY 07 \$464,417; FY 08 \$464,417; FY 09 \$464,417

**Abstract:** The New England Regional Spinal Cord Injury Center (NERSCIC), based at Boston Medical Center (BMC), uses a network of rehabilitation hospitals (including Gaylord Hospital, Wallingford, CT), partners, and affiliates to develop a regional capacity to disseminate materials in such a way that they will be utilized both by consumers with spinal cord injury (SCI) and their families, and health care professionals, with particular attention to minorities and underserved groups. NERSCIC's site-specific research project involves designing an improved outcome instrument in SCI research. This project applies contemporary measurement methods (CATS) to initiate a major transformation in the outcome assessment technology used to assess activity limitation frequently monitored in SCI research. Once the SCI-CAT has been developed using data collected from a major field study, a demonstration of the SCI-CAT evaluates its respondent burden, acceptability to patients and clinicians, as well as its breadth, precision, sensitivity to change, and validity with inpatients and outpatients with SCI who are receiving care from NERSCIC. Comparisons are made between the FIM and SCI-CAT over a 6-month follow-up period. Additionally, this site-specific project will be integrated with the NeuroQoL collaborative module, in order to expand and improve both projects and to avoid developing competing computer adaptive testing instruments. This project is now referred to as the QOL/SCI-CAT Combined Project. Lastly, NERSCIC is a participating site in the SCI Collaborative Participation Module, led by Gale Whiteneck at Craig Hospital, to address the importance of participation given the current absence of a standard acceptable measure of participation. This collaborative SCI module identifies the best existing measure of participation or combines the best items from existing measures of participation to form a new and improved tool with better psychometric properties validated in the SCI Model Systems to ensure broad acceptability in future SCI outcomes research, and to allow for meaningful testing of clinical interventions.

**Model Spinal Cord Injury Systems**  
Michigan

**University of Michigan Model Spinal Cord Injury Care System**

---

University of Michigan  
Department of Physical Medicine and Rehabilitation  
300 North Ingalls, Room NI2A09  
Ann Arbor, MI 48109-5491  
model.sci@umich.edu  
www.med.umich.edu/pmr/modelsci/

**Principal Investigator:** Denise G. Tate, PhD, ABPP, FACRM

**Public Contact:** Martin Forchheimer, MPP, Project Manager 734/763-0971; Fax: 734/936-5492

**Project Number:** H133N060032

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 06 \$457,417; FY 07 \$457,417; FY 08 \$457,417; FY 09 \$457,417

**Abstract:** The overall purpose of this project is to provide comprehensive rehabilitation and community participation services and to generate new knowledge through research, development, and demonstration designed to improve outcomes for persons with spinal cord injury (SCI). A site-specific research study is conducted in partnership with faculty from the University of Michigan Depression Center, Department of Psychiatry, and the Molecular and Behavioral Neurosciences Institute. This study is a randomized clinical trial study designed to evaluate the efficacy of a pharmacological agent, Venlafaxine HCl also known as Effexor XR, as a preventive agent for reducing depression among persons with SCI. This clinical trial addresses a major need in the field as there are no randomized clinical trials currently available on the effectiveness of antidepressants in persons with SCI. In this study, the drug's effects on pain are also assessed. An outcome of this study is the formulation of recommendations for antidepressant medication use in SCI and implications for clinical practice guidelines. The project continues to operate an efficient data collection system, facilitating research and contributions to the National SCI Database.

**Model Spinal Cord Injury Systems**  
New Jersey

---

**Northern New Jersey Spinal Cord Injury System**

---

Kessler Medical Rehabilitation Research and Education Corporation (KMRREC)  
1199 Pleasant Valley Way  
West Orange, NJ 07052-1499  
dtulsky@kesslerfoundation.net  
www.kmrrec.org/nnjscis

**Principal Investigator:** David S. Tulsky, PhD

**Public Contact:** 973/243-6849; 973/243-6916; Fax: 973/243-3527

**Project Number:** H133N060022

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 06 \$457,417; FY 07 \$457,417; FY 08 \$457,417; FY 09 \$457,417

**Abstract:** The Northern New Jersey Spinal Cord Injury System (NNJSCIS) provides a comprehensive continuum of state-of-the-art care for persons with spinal cord injury (SCI) and their significant others from time of injury through long-term follow-up in the community and conducts spinal cord research, including clinical research and the analysis of standardized data. NNJSCIS conducts both a site-specific research study and a collaborative module. These studies contribute to evidence-based rehabilitation interventions and clinical and practice guidelines that improve the lives of individuals with SCI and consist of the following: An innovative rehabilitation intervention utilizing technology to prevent respiratory disease in persons with SCI, now the leading cause of death and the third leading cause of hospitalizations in this population; a collaborative module that adapts, develops, and validates an innovative and promising outcome system for use in SCI intervention research; and the NNJSCIS coordinates with the NIDRR-funded Model Systems Knowledge Translation Center to provide scientific results and information for dissemination to clinical and consumer audiences. This project is a cooperative effort of the Kessler Medical Rehabilitation Research and Education Corporation (KMRREC), the Kessler Institute for Rehabilitation (KIR), the University of Medicine and Dentistry of New Jersey - The New Jersey Medical School (UMDNJ-NJMS), and UMDNJ-University Hospital.

## Model Spinal Cord Injury Systems

New York

### Mount Sinai Spinal Cord Injury Model System

---

Mount Sinai School of Medicine  
Department of Rehabilitation Medicine  
One Gustave L. Levy Place, Box 1240  
New York, NY 10029-6574  
marcel.dijkers@mssm.edu  
www.mssm.edu/rehab/spinal

**Principal Investigator:** Kristian T. Ragnarsson, MD

**Public Contact:** Marcel Dijkers, PhD 212/659-8587; Fax: 212/348-5901

**Project Number:** H133N060027

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 06 \$452,541; FY 07 \$452,541; FY 08 \$452,541; FY 09 \$452,541

**Abstract:** The purpose of the Mount Sinai Spinal Cord Injury Model System (MS-SCI-MS) is to (1) demonstrate and evaluate a multidisciplinary system of rehabilitation care for persons with spinal cord injury (SCI) in the New York City metropolitan area, including innovative programs for community integration; (2) contribute longitudinal data to the SCI National Database; (3) create and evaluate SCI quality of life assessment and participation assessment measures, and collect information on the labor force and economic impacts of SCI; and (4) evaluate the treatment of neuropathic pain using modified-release morphine. There are three major components of the MS-SCI-MS: (1) comprehensive clinical care, (2) research (site-specific, module projects and contributions to the national database); and (3) dissemination, education, and training. The comprehensive clinical program consists of the following components: (1) The NYC Emergency Medical Service (NYC-EMS), which ensures the early and safe extrication of individuals with SCI from the site of injury; (2) acute medical/surgical care at Elmhurst Hospital Center or at Mount Sinai Hospital (MSH), both of which provide state-of-the-art emergency and medical/surgical services; and (3) comprehensive inpatient medical rehabilitation services on the 25-bed, CARF-accredited SCI inpatient rehabilitation unit of MSH. The program stresses interdisciplinary care, and employs a primary team model to enhance coordination among caregivers. The research program of MS-SCI-MS is designed to advance the understanding of SCI and its consequences, and to develop better methods of treatment of secondary conditions of SCI, especially pain. The site-specific project studies modified-release formulation of morphine sulfate for neuropathic pain after SCI through a randomized, double-blind crossover trial of modified-release morphine and placebo for patients with uncontrolled neuropathic pain of three types. In addition, three module projects are executed in collaboration with SCI model systems elsewhere. Dissemination, education, and training for individuals with SCI, their families, students, and health professionals, constitute the third component of the MS-SCI-MS, and include publications in scientific journals, presentations at national and local meetings, publication of a newsletter for consumers, expanded web-based information, a variety of educational and training programs, including an SCI medicine fellowship, and training of physical medicine and rehabilitation residents from various residency programs.

**Model Spinal Cord Injury Systems**  
Ohio

**Northeast Ohio Regional Spinal Cord Injury System**

---

MetroHealth System  
Department of Physical Medicine and Rehabilitation  
2500 MetroHealth Drive  
Cleveland, OH 44109  
mroach@metrohealth.org  
rehab.metrohealth.org/norscis

**Principal Investigator:** Gregory A. Nemunaitis, MD 216/778-5514

**Public Contact:** Mary Jo Roach 216/778-8781; Fax: 216/778-8782

**Project Number:** H133N060017

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 06 \$449,417; FY 07 \$449,417; FY 08 \$449,417; FY 09 \$449,417

**Abstract:** The Northeast Ohio Regional Spinal Cord Injury System (NORSCIS) at MetroHealth Rehabilitation Institute of Ohio in collaboration with Case Western Reserve University and the Cleveland FES Center conducts research to further develop the effectiveness of an innovative Model Spinal Cord Injury Care System and to demonstrate how the application of advanced assistive technology can benefit persons with disabilities. Efficiency and effectiveness of care (and research potential) are enhanced as all components of the continuum of care (from trauma/emergency care to acute medical/surgical treatment, inpatient and outpatient rehabilitation, and community support services) are all available on the NORSCIS campus. A site-specific project studies advances in functional electrical stimulation (FES) technology to document improvements in function, health, and wellness. An innovative focus on trunk muscle stimulation targets specific clinical problems, including seated stability and mobility, reachable workspace, and pulmonary function. A collaborative research project with UPMC-SCI, is directed at testing and collecting the data needed to understand the impact of coverage changes and to fully explore the issue of disparity in assistive technology for mobility prescription. A collaborative project with Craig Hospital involves the development of a reliable, valid measurement tool to assess community participation. The goal of these hypothesis-driven research and demonstration projects is to develop and measure the effectiveness of new intervention strategies at both the individual patient level and overall systems of care for persons with spinal cord injury.

**Model Spinal Cord Injury Systems**  
Pennsylvania

---

**Regional Spinal Cord Injury Center of the Delaware Valley**

---

Thomas Jefferson University  
Regional Spinal Cord Injury Center of the Delaware Valley  
132 South 10th Street  
375 Main Building  
Philadelphia, PA 19107-5244  
Mary.Patrick@jefferson.edu  
www.spinalcordcenter.org

**Principal Investigator:** Ralph J. Marino, MD

**Public Contact:** Mary Patrick, RN 215/955-6579; Fax: 215/955-5152

**Project Number:** H133N060011

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 06 \$464,417; FY 07 \$464,417; FY 08 \$464,417; FY 09 \$464,417

**Abstract:** The Regional Spinal Cord Injury Center of the Delaware Valley (RSCICDV) provides and evaluates a comprehensive program of coordinated patient care, education, and research activities for individuals who have sustained a traumatic spinal cord injury (SCI). Clinical activities are directed at promoting evidence-based practice to improve outcomes and reduce medical complications in persons with SCI. Research activities are designed to develop and validate upper and lower extremity outcome measures for use in clinical trials. Specifically, RSCICDV: (1) contributes to the National Database by enrolling an estimated 50 new subjects per year into the database and by collecting follow-up data on previously enrolled subjects; (2) conducts an on-site research project whose focus is to develop and validate the Capabilities of the Upper Extremity Test (CUE-T), an objective test of arm and hand functional capabilities needed to conduct clinical trials for neurological recovery in SCI; (3) participate in a collaborative module on investigating the impact of policy changes on customizability and features of wheelchairs and investigate distance traveled, time spent active and speed traveled in a wheelchair and its relationship to wheelchair customizability and features, wheelchair breakdown, and quality of life; (4) participates in a collaborative module on validation of an outcome measure for motor recovery in incomplete SCI; and (5) develops educational resources for patients, healthcare providers, and researchers.

**Model Spinal Cord Injury Systems**  
Pennsylvania

**University of Pittsburgh Model Center on Spinal Cord Injury**

---

University of Pittsburgh  
UPMC Institute for Rehabilitation & Research  
1400 Locust Street Bldg B, Suite 11516  
Pittsburgh, PA 15219  
greekk@upmc.edu  
www.upmc-sci.org; www.rehabmedicine.pitt.edu

**Principal Investigator:** Michael L. Boninger, MD 412/365-4861

**Public Contact:** Karen Greenwald, RN 412/232-7949; Fax: 412/232-7535

**Project Number:** H133N060019

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 06 \$449,417; FY 07 \$449,417; FY 08 \$449,417; FY 09 \$449,417

**Abstract:** The UPMC-SCI continues its research focus on assistive technology (AT) for mobility. Pilot data collected during the previous funding cycle highlighted disparity in wheelchair prescription. Individuals from minority groups and people with low socioeconomic status received less and lower quality equipment. So that interventions can be developed, the project continues and expands this research to delve into the reasons for disparity. In addition, it investigates the impact of recent Centers for Medicare and Medicaid Services (CMS) changes for AT reimbursement. These changes will likely have a critical impact on the AT provided to individuals with spinal cord injury (SCI). Finally, the project develops a tool to determine how far, how fast, and when people travel in their wheelchairs. This data is related to the type of wheelchairs used, to the number of wheelchair failures, and to measures of participation. From these findings, researchers determine how the wheelchair prescribed impacts participation, and if greater use leads to greater failures. This data can be used to push for improvements in manufacturing and changes in coverage. UPMC-SCI also conducts a randomized, controlled trial to determine if following the Consortium of Spinal Cord Injury Medicine Guidelines on Upper Limb Preservation leads to decreased pain. These guidelines are applied to acutely injured patients who are followed for the first six months after injury. Validation of the guidelines' effectiveness helps assure that they become the standard of care across the country. SCI care at the University of Pittsburgh is provided in a multidisciplinary manner with a high level of communication among the constituent services. The project has fully implemented a system of continuity of treatment that begins with the emergency response at the scene of injury and continues with comprehensive treatment and rehabilitation from medical/surgical to acute stage rehabilitation through utilization of assistive technology services and vocational rehabilitation. UPMC-SCI continues to enroll and collect long-term follow-up data on SCI subjects for the National Spinal Cord Injury Statistical Center.

## Model Spinal Cord Injury Systems

Texas

### Texas Model Spinal Cord Injury System

---

The Institute for Rehabilitation and Research (TIRR)

1333 Moursund Street

Houston, TX 77030-3408

dgraves@bcm.tmc.edu

www.texasmscis.org

**Principal Investigator:** Daniel Graves, PhD; William Donovan, MD; 713/797-5023

**Public Contact:** Daniel Graves, PhD 713/797-5946 (V); 713/797-5790 (TTY); Fax: 713/797-5982

**Project Number:** H133N060003

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 06 \$464,417; FY 07 \$464,417; FY 08 \$464,417; FY 09 \$464,417

**Abstract:** The Texas Model Spinal Cord Injury System (TMSCIS) provides services along the entire continuum of care for spinal cord injury (SCI) from emergency medical service to long-term follow-up and management of secondary conditions. The TMSCIS includes a site-specific research project that is designed to provide high level evidence of the efficacy of a novel treatment to prevent bladder complications. The project is a randomized, double-blind, placebo controlled, parallel groups investigation of the effects of Botulinum toxin A treatment of detrusor external sphincter dyssynergia (DESD) during early spinal cord injury. Many patients with SCI develop neurogenic bladder dysfunction associated with detrusor hyperreflexia and DESD that can lead to long-term complications in up to 50 percent of patients. These complications include hydronephrosis, vesicoureteral reflux, nephrolithiasis, sepsis, renal insufficiency or failure, and even death. This investigation is intended to determine if the prevention of DESD in the early phase of recovery can prevent some of these complications. In addition, the TMSCIS includes a module designed to develop an outcome measure of trunk and postural control to be utilized in activity-based therapy programs like locomotor training. The outcomes of large scale clinical trials of locomotor training highlight the need for outcome measures that are designed to capture changes brought about by translational research that may not have been necessary for more traditional therapy programs. This scale development project incorporates item response theory methods as well as reliability and validity investigations in a minimum of four model systems.

**Model Spinal Cord Injury Systems**  
Washington

---

**Northwest Regional Spinal Cord Injury System**

---

University of Washington  
Department of Rehabilitation Medicine  
Box 356490  
Seattle, WA 98195-6490  
scirehab@u.washington.edu  
sci.washington.edu

**Principal Investigator:** Charles H. Bombardier, PhD 206/731-3665

**Public Contact:** Cynthia Salzman, MHA 206/685-3999; Fax: 206/685-3244

**Project Number:** H133N060033

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 06 \$464,417; FY 07 \$464,417; FY 08 \$464,417; FY 09 \$464,417

**Abstract:** The University of Washington's Northwest Regional Spinal Cord Injury System (NWRSCIS) serves a critical mass of patients with spinal cord injury (SCI) and has all the necessary disciplines to provide state-of-the-art medical, surgical, and rehabilitation care. One site-specific project is a randomized controlled intervention study evaluating the effect of proactive, structured, telephone-based counseling and care management on rehospitalization rate and quality of life during the first year after discharge from acute rehabilitation. This study builds upon successful experiences with telephone counseling for both people with traumatic brain injury and multiple sclerosis. This research is particularly important because the lifestyle changes and health care behaviors required for successful living after SCI are tremendously challenging, rates of rehospitalization are high, and many people (especially in rural regions) lack ready access to knowledgeable advice, behavior change support, and specialty care sufficient to maintain their health. A modular project studies the natural history of major depression under conditions of usual care during the first year after SCI. This project establishes reliable and valid means of screening and diagnosing major depression soon after SCI. It examines the impact of depression on rehabilitation efficiency and compares the effect of standard treatment to clinical practice guideline level care of depression. This study describes depression treatment preferences among people with SCI and lays the foundation for a multi-site clinical trial. The NWRSCIS also includes a collaborative, multisite, randomized, double-blind, placebo controlled trial of venlafaxine XR (Effexor XR) in adults with SCI and major depressive disorder (MDD). The purpose of the study is to examine the efficacy and tolerability of venlafaxine XR as a treatment for MDD. NWRSCIS contributes to the national statistics database at the University of Alabama at Birmingham.

## Field Initiated Projects (FIPs)

California

# A New Measure of Subjective Fatigue in Persons with Traumatic Brain Injury

---

Santa Clara Valley Medical Center (SCVMC)  
Rehabilitation Research Center  
751 South Bascom Avenue  
San Jose, CA 95128

**Principal Investigator:** Jeffrey Englander, MD 408/793-6446

**Public Contact:** Jerry Wright 408/793-6433; Fax: 408/793-6434

**Project Number:** H133G080168

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 08 \$182,918; FY 09 \$170,842

**Abstract:** This research project addresses the lack of evidence supporting a specific fatigue scale, of the over 30 that have been used for clinical and/or research purposes, which is psychometrically sound, efficient, and useful in individuals with traumatic brain injury (TBI) to assess treatment interventions and the natural history of fatigue following TBI. The primary objective of the project is to evaluate the internal consistency, concurrent validity, and item/scale structure of a fatigue item pool and to identify the most psychometrically sound measure of fatigue in individuals post-TBI. To accomplish this goal, SCVMC has partnered with the Rehabilitation Institute of Michigan (RIM), a TBI Model System from 1987-2007 and a contracted center to continue TBI National Database follow-up. SCVMC and RIM have the largest number of cases eligible for follow-up in the TBI National Database. The short-term outcome is to advance knowledge about the measurement of fatigue in individuals with TBI through creation of a psychometrically valid and useful fatigue assessment measure for individuals with TBI. The intermediate outcome is that availability of the new scale will lead to improved studies and treatment plans for individuals with TBI who have fatigue.

## Field Initiated Projects (FIPs)

California

# Evaluating Dysphagia in Individuals with Spinal Cord Injury: Assessing Incidence, Associated Factors, and Preventable Complications

---

Santa Clara Valley Medical Center (SCVMC)  
751 South Bascom Avenue  
San Jose, CA 95128

**Principal Investigator:** Kazuko Shem, MD

**Public Contact:** Kazuko Shem, MD 408/885-7007; Fax: 408/885-2028

**Project Number:** H133G080165

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 08 \$189,382; FY 09 \$196,670

**Abstract:** Dysphagia is known to occur in a significant number of individuals with spinal cord injury (SCI) presenting to acute care immediately after the injury and to inpatient rehabilitation. However, the exact incidence of dysphagia in this population has not been studied prospectively. The primary objective of this study is to determine the incidence of dysphagia using bedside swallow evaluation (BSE) and videofluoroscopy swallow study (VFSS) and to determine associated risk factors in individuals with SCI. The secondary objective is to determine if the BSE is an effective screening tool as compared with the VFSS for individuals with SCI and to determine the sensitivity and specificity of BSE in individuals with SCI. The third objective is to document the time course for the resolution of dysphagia post-SCI. To address this research question, individuals with SCI who are positive for dysphagia following either a BSE or VFSS are administered serial BSE and VFSS until resolution of dysphagia or discharge from the rehabilitation center.

## Field Initiated Projects (FIPs)

Colorado

# Developing a Relevant Instrument to Assess Caregiver Distress and Benefit in Spinal Cord Injury

---

Craig Hospital  
3425 South Clarkson Street  
Englewood, CO 80113-2899  
susie@craighospital.org

**Principal Investigator:** Susan Charlifue, PhD

**Public Contact:** 303/789-8306; Fax: 303/789-8441

**Project Number:** H133G090013

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 09 \$199,999

**Abstract:** This project employs a combined qualitative and quantitative methodology to develop a relevant instrument to assess caregiver distress and benefit in spinal cord injury (SCI). The project uses a focus group methodology to identify areas of concern for family members providing assistance to a loved one with SCI. Detailed qualitative analysis of the focus group transcripts is used to identify themes and concepts that may be operationalized into questions for a new instrument to assess caregiver distress and benefit in SCI. The instrument is pilot tested with 250 family SCI caregivers. Items for a final instrument are selected following factor analysis and Rasch analysis. The lived experience of SCI caregiving, as expressed by the caregivers themselves, helps identify what factors are associated with positive or negative experiences for SCI family caregivers. From this rich contextual information, a new measure to assess distress and benefit in SCI caregiving may be developed. Led by Craig Hospital in Englewood, Colorado, the project is a collaborative research effort with three other prominent SCI rehabilitation facilities: University of Alabama at Birmingham, Santa Clara Valley Medical Center in San Jose, California, and the Kessler Medical Rehabilitation Research & Education Center/Kessler Foundation in West Orange, New Jersey.

## Field Initiated Projects (FIPs)

Florida

# Investigating the Effects of Snoezelen in Children Recovering from Severe Brain Injury

---

University of Miami  
Miller School of Medicine  
1611 NW Twelfth Avenue, RTC-215  
Miami, FL 33136-1094  
ghotz@med.miami.edu

**Principal Investigator:** Gillian A. Hotz, PhD

**Public Contact:** 305/243-4004; Fax: 305/243-4006

**Project Number:** H133G070119

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 07 \$197,907; FY 08 \$196,697; FY 09 \$198,370

**Abstract:** This research study examines a novel therapeutic approach referred to as Snoezelen or controlled multisensory therapy for children with severe traumatic brain injury (TBI). The Snoezelen approach is based on a theoretical framework of using a controlled multisensory environment which promotes stimulation of the primary senses which include auditory, visual, olfactory, tactile, and gustatory systems which are impaired in the early stages of recovery. There is evidence that Snoezelen has been shown to find a balance between relaxation and activity or changing arousal within the framework of a safe, controlled, adapted environment. The purpose of this study is to investigate the effects of Snoezelen therapy on physiological, cognitive, and behavioral changes in children recovering from severe TBI. Seventy-two subjects from 5-18 years of age recovering from severe TBI are studied in a prospective randomized controlled trial. The treatment group that receives up to 20 Snoezelen treatment sessions is compared to a control group that receives up to 20 playroom sessions, with both groups receiving a standard comprehensive neurorehabilitation program in an inpatient pediatric rehabilitation unit. Specific physiological, cognitive, and behavioral outcome measures are collected and evaluated at baseline, and pre- and post-Snoezelen and playroom treatment sessions.

## Field Initiated Projects (FIPs)

Florida

# Exercise Treatment of Obesity-Related Secondary Conditions in Adults with Paraplegia

---

University of Miami  
Miller School of Medicine  
1095 Northwest 14th (R48)  
Miami, FL 33136

**Principal Investigator:** Mark S. Nash, PhD 305/243-3628

**Public Contact:** Fax: 305/243-3913

**Project Number:** H133G080150

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 08 \$199,738; FY 09 \$199,922

**Abstract:** This project investigates the effects of physical activity with or without a nutrient supplement known to increase body lean mass on adults with chronic paraplegia who are at risk for clusters of obesity and obesity-related secondary complications. Qualified subjects perform six months of circuit resistance training with half of the participants randomized to receive a whey protein supplement immediately before and immediately after each training session. The immediate post-exercise administration of whey protein is reported to increase body lean (muscle) mass, whose loss after spinal cord injury (SCI) is thought to decrease fat utilization and hasten body fat accretion. Outcomes measured include: (1) the effects of training and supplement on cardiopulmonary endurance and strength, a global disease risk score, health related quality of life as assessed by the SF-36 instrument validated for use in persons with SCI; and (2) participant perceptions of exercise benefits studied before and after training by a scientist-stakeholder with SCI. Data examining the personal and societal barriers to exercise participation after SCI is collected through a web-based form. This project improves the understanding of risks for obesity and obesity-related secondary complications. The results are analyzed and will improve the understanding of risks for obesity and obesity-related secondary complications.

## Field Initiated Projects (FIPs)

Georgia

### Biopsychosocial Factors that Predict TBI Post-Acute Rehabilitation Outcomes

---

Shepherd Center, Inc.  
2020 Peachtree Road, NW  
Atlanta, GA 30309-1465  
ron\_seel@shepherd.org

**Principal Investigator:** Ronald T. Seel, PhD

**Public Contact:** 404/367-1240

**Project Number:** H133G070171

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 07 \$192,500; FY 08 \$194,973; FY 09 \$195,411

**Abstract:** This project develops models using biopsychosocial factors assessed during the initial days of traumatic brain injury (TBI) post-acute rehabilitation to predict good, fair, and poor post-acute rehabilitation discharge outcomes. Empirically derived biopsychosocial models improve understanding of TBI recovery, identify patients at risk for poor outcomes, inform individualized treatment planning, and increase the overall efficiency and efficacy of post-acute rehabilitation services. Clinical measures of motor and cognitive functioning are analyzed, and five experimental measures are administered to assess potential psychosocial and environmental risk factors for clients with TBI. The primary goals are to produce probabilistic and tree-based models of biopsychosocial factors that predict good, fair, or poor TBI post-acute rehabilitation outcomes with regard to: (1) physical and cognitive improvement; (2) independent living (no supervision required); and (3) community participation. Primary dissemination efforts include at least two peer-reviewed manuscripts that describe predictive models for clinical use, and development of an automated post-acute rehabilitation admission assessment protocol, made available for downloading from the Shepherd Center website. The long-term goal is to design and test interventions for treatable predictors of post-acute rehabilitation outcomes and establish evidence-based guidelines.

## Field Initiated Projects (FIPs)

Georgia

# Evaluating the Effects of Activity-Based Therapy for Individuals with Chronic Spinal Cord Injury

---

Shepherd Center, Inc.  
2020 Peachtree Road Northwest  
Atlanta, GA 30309

**Principal Investigator:** Michael L. Jones, PhD 404/350-7595

**Public Contact:** 404/350-7595; Fax: 404/350-7596

**Project Number:** H133G080031

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 08 \$200,000; FY 09 \$200,000

**Abstract:** This project evaluates the effects of an activity-based therapeutic exercise program for individuals with chronic spinal cord injury (SCI) using Beyond Therapy—a program of state-of-the-art therapeutic exercise technology. Project goals include: (1) completing a randomized, experimental-control group comparison examining the effects of participation in activity-based therapy on neurological functioning, independence in activities of daily living, and community participation; (2) conducting further between-group and within-subject analyses to determine variations in outcomes as a function of level of injury and ASIA classification; (3) identifying factors associated with continued compliance with a self-directed maintenance program designed to sustain any gains in neurological functioning achieved from participation in activity-based therapy; and (4) examining the relationship between level of compliance with the maintenance program and preservation of gains achieved over a 12-month period. Research results are used to develop activity-based exercises for individuals with SCI that can be implemented in community-based fitness centers. Additionally, the project develops a training and technical assistance program to assist community fitness centers in implementing activity-based therapy programs.

## Field Initiated Projects (FIPs)

Illinois

### Enhanced Motor Recovery Using Serotonergic Agents

---

Rehabilitation Institute of Chicago  
345 East Superior Street, Suite 1406  
Chicago, IL 60611-4496  
g-hornby@northwestern.edu

**Principal Investigator:** T. George Hornby, PhD, PT

**Public Contact:** 312/238-1397

**Project Number:** H133G060124

**Start Date:** November 01, 2006

**Length:** 36 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 06 \$142,710; FY 07 \$146,280; FY 08 \$145,648; FY 09 (No-cost extension through 10/31/2010)

**Abstract:** The purpose of this project is to identify changes in voluntary and reflex behaviors, with an emphasis on walking ability, in individuals with stroke following specific pharmacological and physical interventions, with the potential to optimize walking recovery during intensive rehabilitation. This project focuses on improving independent walking ability in individuals with chronic hemiparesis post-stroke. A substantial body of literature demonstrates the effectiveness of body-weight supported treadmill training post-stroke, although the improvements in walking ability may be limited. The project's goal is to enhance the benefits of training by increasing neural excitability and potential plasticity by application of serotonergic agents. The approach has two objectives: (1) demonstrate that serotonergic agents can modulate reflex and voluntary motor activity with acute and chronic selective serotonin reuptake inhibitors administration, and (2) accelerate motor performance and walking recovery using combined pharmacological and physical interventions as opposed to either intervention alone.

## Field Initiated Projects (FIPs)

Illinois

# Augmenting Language Therapy for Aphasia: A Randomized Double-Blind Placebo-Controlled Trial of Levodopa in Combination with Speech-Language Therapy

---

Rehabilitation Institute Research Corporation  
Center for Aphasia Research  
345 East Superior Street, Room 1353A  
Chicago, IL 60611  
lcherney@ric.org

**Principal Investigator:** Leora R. Cherney, PhD

**Public Contact:** 312/238-1117; Fax: 312/238-2208

**Project Number:** H133G070074

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 07 \$199,843; FY 08 \$199,772; FY 09 \$199,465

**Abstract:** This randomized, double-blind, placebo controlled clinical trial evaluates the effect of the pharmacologic agent, levodopa, in combination with speech-language treatment, on the language outcome of patients with chronic, nonfluent aphasia. There is preliminary evidence that increased levels of dopamine, in combination with language treatment, may improve the language deficits of aphasia following stroke. Most studies have investigated the adjunctive effects of bromocriptine, a dopamine agonist that acts on post-synaptic dopamine receptors, changing the tonic state of dopamine neurons. However, new evidence is suggesting that levodopa, a precursor to dopamine, may be preferred since it has the potential to increase the presynaptic availability of dopamine, thereby enhancing phasic dopamine signals which are important for learning enhancement. Accordingly, the specific aims of this clinical trial are to assess whether: (1) levodopa in combination with speech-language therapy improves language performance; (2) levodopa in combination with speech-language therapy improves language performance more than speech-language therapy alone; and (3) improvements in language performance resulting from combined levodopa and speech language therapy are maintained over time to a greater extent than improvements resulting from speech-language therapy alone. The intervention, which serves as the behavioral treatment platform on which to assess the adjunctive effects of levodopa, is administered via computer and involves repeated choral reading of sentences. Subjects receive five hours of the speech-language therapy intervention weekly plus the levodopa or placebo for six weeks. The primary outcome measure is the change in the Aphasia Quotient (AQ) score on the Western Aphasia Battery from pre-treatment to post-treatment. Other language, cognitive, and communication measures are collected pre- and post-treatment and at six weeks after completion of treatment.

ng:

## Field Initiated Projects (FIPs)

Illinois

# Effectiveness of a Teleconference Fatigue Management Program for People with Multiple Sclerosis

---

University of Illinois at Chicago  
Department of Occupational Therapy  
1919 West Taylor Street, MC 811  
Chicago, IL 60304  
marciaf@uic.edu

**Principal Investigator:** Marcia Finlayson, PhD  
**Public Contact:** 312/996-4603; Fax: 312/413-0256

**Project Number:** H133G070006

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 07 \$143,836; FY 08 \$142,688; FY 09 \$112,550

**Abstract:** This project tests the effectiveness and efficacy of a teleconference energy conservation education program for people with multiple sclerosis (MS). The project is guided by self-efficacy theory and builds on existing pilot work. The program is delivered by teleconference by a licensed occupational therapist. Participants are provided with a telephone and headset, and a program manual. On the designated days, participants call a toll-free phone number and participate in an educational group session facilitated by the therapist. A total of six one-hour weekly sessions use the program materials developed through the pilot study. Measures of the primary and secondary outcomes are administered over the telephone by a research assistant before and after the program, at three months, and at six months. By collecting data at these points and having a wait-list control group, the project is able to test whether: (1) individuals in the immediate intervention group achieve better outcomes than individuals in the wait-list control group; (2) the program leads to significant reductions in fatigue impact and fatigue severity, and improved quality of life; and (3) improvements in the outcomes can be maintained over six months. Analyses involve t-tests and mixed effects regression models. The primary goals of the project are to reduce the impact of fatigue on participants' everyday lives, reduce fatigue severity, and improve quality of life. Secondary goals are to increase self-efficacy for managing fatigue and increase the number of energy conservation strategies used.

## Field Initiated Projects (FIPs)

Illinois

### Noninvasive Examination of ALS Using Surface EMG

---

Rehabilitation Institute of Chicago  
Sensory Motor Performance Program (SMPP)  
345 East Superior Street, Room 1406  
Chicago, IL 60611-2654  
p-zhou@northwestern.edu  
www.smpp.northwestern.edu/

**Principal Investigator:** Ping Zhou, PhD

**Public Contact:** 312/238-1365; Fax: 312/238-2208

**Project Number:** H133G090093

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 09 \$188,537

**Abstract:** This project develops a robust technique for noninvasive motor unit discrimination using the surface electromyogram (EMG), and then, to utilize the technique to supplement, and potentially replace in certain cases, the routine needle EMG examination of amyotrophic lateral sclerosis (ALS). There are two planned goals for the proposed study. The first goal is to develop and test noninvasive surface EMG unitary decomposition methods. This includes quality controls by validating and refining the developed methods using both computational and experimental approaches. The second goal is to perform a surface EMG examination of the pathological changes in ALS patients, mainly at the motor unit level, using these newly developed noninvasive methods. The strategies utilized in this project lie in both surface EMG recording and signal processing methods. Development is based on two-dimensional, high density electrode arrays for surface EMG recording, which represent the most recent advance in surface EMG electrode design. Taking advantage of the spatial information and multi-channel recording of the electrode arrays, the project uses the most appropriate EMG signal processing methods to extract single motor unit activities from the surface EMG. These methods include linear and nonlinear spatial filtering, two-dimensional motor unit action potential template matching, pattern recognition, and state-of-the-art blind source separation techniques. This includes laboratory-based studies and repeated testing in ALS clinics. The directly targeted population is patients with ALS, however these research activities may potentially benefit individuals with other neuromuscular diseases who may need EMG examination.

## Field Initiated Projects (FIPs)

Kansas

### Weight Loss by Individuals with Physical Disabilities

---

University of Kansas  
Life Span Institute  
10212 South North Lake Avenue  
Olathe, KS 66061  
msaundrs@ku.edu

**Principal Investigator:** Muriel D. Saunders, PhD; Amanda Reichard, PhD

**Public Contact:** 785/864-1618; Fax: 785/864-5323

**Project Number:** H133G090230

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Margaret Campbell, PhD

**NIDRR Funding:** FY 09 \$199,801

**Abstract:** This project conducts a randomized trial to evaluate weight loss and weight maintenance using both sides of the energy balance equation (i.e. energy intake and energy expenditure) in overweight and obese individuals with physical disabilities (PD) who have impaired mobility. Researchers compare participants who use the modified Stop Light Diet (SLDm) with participants who follow the National Heart, Lung and Blood Institute (NHLBI) Step 1 Diet (i.e., standard nutrition and intake recommendations or usual care (UC)). Following a 6-month period of reduced energy intake (weight loss), both groups are placed on a diet with sufficient energy to maintain weight (i.e., weight maintenance) for an additional 12 months. Both groups are encouraged to participate in a physical activity program appropriate for their physical abilities throughout the 18 months. Program intervention and participant acceptance are evaluated through extensive process analysis of quantitative and qualitative data. The project also tracks and analyzes the health care utilization patterns and secondary health outcomes of participants in both the SLDm and UC diets using secondary data analysis of Kansas Medicaid claims data.

Field Initiated Projects (FIPs)  
Michigan

## Sensorimotor Training and Assessment in Adults with Hemiplegic Cerebral Palsy: The ULTrA Program

---

University of Michigan  
Division of Kinesiology  
401 Washtenaw  
Ann Arbor, MI 48109-2214  
shcb@umich.edu  
[www.motorcontrol.umich.edu/ultra](http://www.motorcontrol.umich.edu/ultra)

**Principal Investigator:** Susan H. Brown, PhD

**Public Contact:** 734/763-6755; Fax: 734/936-1925

**Project Number:** H133G050151

**Start Date:** December 01, 2005

**Length:** 36 months

**NIDRR Officer:** Joyce Y. Caldwell

**NIDRR Funding:** FY 05 \$148,810; FY 06 \$148,221; FY 07 \$149,933; FY 08 (No-cost extension through 11/30/2009)

**Abstract:** This project implements a eight-week upper limb training and assessment program (ULTrA. Program) for adults with hemiplegic cerebral palsy (CP), a growing yet neglected segment of the CP community. This program is home-based but linked to the research laboratory through the Internet. Prior to and following clinical intervention, a quantitative assessment of upper limb and hand sensorimotor function is made using established motor control techniques. Each participant receives a computer-based upper limb training unit, including high speed Internet connectivity and a training CD. A 40-minute, tailored intervention program is performed five days per week. During three of these training sessions, a student coach assists participants via webcam. During the coaching sessions, movement time and grasp force data are recorded and uploaded to a central website which also serves as a resource for consumers and researchers in the area of mobility in CP across the lifespan. Training in this intervention leads to improved sensorimotor function of the affected limb and improved bilateral coordination in adults with hemiplegic CP. This Internet-based program, which utilizes virtual coaches, facilitates adherence to the training program and thus maximizes the benefit of the intervention.

**Field Initiated Projects (FIPs)**  
Michigan

**Adapted Assessment of Speed of Information Processing in Children  
with Cerebral Palsy**

---

University of Michigan  
Department of Physical Medicine and Rehabilitation  
325 East Eisenhower, Suite 100  
Ann Arbor, MI 48108  
sethaw@umich.edu  
[www.med.umich.edu/pmr/acal/speed.htm](http://www.med.umich.edu/pmr/acal/speed.htm)

**Principal Investigator:** Seth A. Warschausky, PhD

**Public Contact:** 734/936-7052; Fax: 734/936-7048

**Project Number:** H133G070044

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 07 \$199,995; FY 08 \$199,996; FY 09 \$199,983

**Abstract:** This project develops an accessible assessment of processing speed that allows sensitive measurements of cognitive capabilities in children with severe motor and communicative impairments. The objective is to examine processing speed in children with cerebral palsy by utilizing inspection time as a measure of speed of visualization. Specific aims are: (1) to examine psychometric properties, including reliability, concurrent validity, and criterion-related validity of a modified inspection time task; and (2) to compare the inspection time profiles within and between groups using the traditional and modified inspection time task procedures. Processing speed is associated with development of critical cognitive functions including working memory and fluid intelligence, and is sensitive to brain dysfunction, medication effects, and aging.

## Field Initiated Projects (FIPs)

Michigan

# Pathways to Depression: An Examination of Vulnerability and Stress in Adults with Spinal Cord Injury

---

University of Michigan  
Department of Physical Medicine and Rehabilitation  
300 North Ingalls, Room NI2A09  
Ann Arbor, MI 48109-0491

**Principal Investigator:** Claire Kalpakjian, PhD

**Public Contact:** 734/763-0971; Fax: 734/936-5492

**Project Number:** H133G070020

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 07 \$199,999; FY 08 \$199,913; FY 09 \$199,964

**Abstract:** This project presents and tests a model (Pathways to Depression after Spinal Cord Injury [SCI]) of vulnerability factors interacting with current stressors (stressful life events and poor social support) to increase risk of depression and its adverse effects on community participation in adults with SCI. Depression after SCI is one of the most pervasive psychological conditions, occurring at rates exceeding the general population, and has the potential to substantially limit independence, compromise health and well-being, and increase risk for suicide. While many studies in the extant literature have examined injury and situational factors as correlates of depression, very few have examined other vulnerability factors that precede injury placing certain individuals at higher risk for depression post-injury. A deeper understanding of factors that predispose some individuals to depression after injury can inform treatment approaches and improve community participation impeded by depression. Using a cross sectional design and survey methodology (written and telephone interview), the project surveys 400 individuals with SCI about early life experience, psychological and substance abuse history (prior to injury), current stressful life events and social support, depression, and community participation. DNA samples are also collected to test for a polymorphism of the serotonin transporter known to interact with stress to increase risk of depression. Structural equation modeling is used to test the Pathways model of vulnerability factors.

## Field Initiated Projects (FIPs)

Michigan

# Neuroanatomical Correlates of Positive Psychology Among People with Traumatic Brain Injury: A Biopsychosocial Model

---

Wayne State University  
Department of Physical Medicine and Rehabilitation  
261 Mack Avenue, Suite 546  
Detroit, MI 48201

**Principal Investigator:** Robin A. Hanks, PhD

**Public Contact:** 313/745-9763; Fax: 313/966-7682

**Project Number:** H133G080064

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 08 \$199,078; FY 09 \$194,402

**Abstract:** This project investigates the complex relationships among strengths of character, structurally-imaged estimates of white matter damage in frontal brain regions, psychological resiliency, and outcomes including satisfaction with life and community integration among people with traumatic brain injury (TBI). Additionally, this project investigates the extent to which Peterson and Seligman's Character Strengths model of recovery from physical illness and trauma holds true for people recovering from TBI during the acute transition phase of adjustment to disability. The psychosocial, cognitive, and physical characteristics which may influence these relationships are also explored. This project measures the satisfaction with life (as measured by the Satisfaction with Life Scale) and community integration (as measured by the Community Integration Measure). Character strengths are evaluated via two self-report scales. Estimates of structural brain damage are gathered via diffusion tensor imaging in three main areas of the prefrontal cortex: the dorsolateral, orbitofrontal, and ventromedial cortices. Ancillary measures are included in the design in order to elucidate the relationships between positive psychology constructs and important mediators/moderators of recovery from TBI: neuropsychological status, perceived social support, problem-solving coping style, positive and negative affectivity, and comorbid physical illness.

## Field Initiated Projects (FIPs)

Nebraska

# Development of an Intelligently Controlled Assistive Rehabilitation Elliptical (ICARE) Training System to Promote Walking and Fitness in Persons with Physical Limitations

---

Madonna Rehabilitation Hospital  
Movement and Neurosciences Center  
Institute for Rehabilitation Science and Engineering  
5401 South Street  
Lincoln, NE 68506  
jburnfield@madonna.org

[www.madonna.org/research\\_institute/movement\\_neurosciences/about\\_us/index.html](http://www.madonna.org/research_institute/movement_neurosciences/about_us/index.html)

**Principal Investigator:** Judith Burnfield, PhD, PT

**Public Contact:** 402/483-9669

**Project Number:** H133G070209

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 07 \$199,524; FY 08 \$199,555; FY 09 \$198,719

**Abstract:** The goal of this project is to develop ICARE, an Intelligently Controlled Assistive Rehabilitation Elliptical trainer and therapeutic program to help individuals with physical or mobility disabilities regain and/or retain their walking ability and physical fitness. Specifically, the project develops, refines, and field-tests a prototype ICARE trainer. It includes an affordable, intelligent control system that adapts the movement pattern of the elliptical trainer to the unique physical assistance needs of individuals as they relearn to walk and exercise. The specific objectives of this project which address this goal are to: (1) identify the best commercially available elliptical trainer to redesign into an ICARE trainer; (2) develop, pilot test, and refine a prototype ICARE device in a controlled (laboratory) environment to improve function, features, beneficial therapeutic effects for walking, and equipment durability; and (3) implement usage of the ICARE system in three free-living environments (an inpatient rehabilitation center, outpatient neurologic and orthopaedic clinic, and a community-based fitness facility) to evaluate the capacity of the device to improve walking ability and cardiovascular function of persons with varied gait dysfunctions and develop a therapeutic intervention program using the device.

## Field Initiated Projects (FIPs)

Nebraska

# Investigation of Interventions for Sitting Postural Control in Young Children with Moderate to Severe Cerebral Palsy

---

University of Nebraska at Omaha  
Nebraska Biomechanics Core Facility  
6001 Dodge Street  
Omaha, NE 68162  
nstergiou@mail.unomaha.edu  
biomech.unomaha.edu/

**Principal Investigator:** Nicholas Stergiou, PhD 402/554-3247

**Public Contact:** Regina Harbourne 402/554-3247; Fax: 402/554-3693

**Project Number:** H133G080023

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 08 \$200,000; FY 09 \$200,000

**Abstract:** This project identifies interventions that improve the quality of life for children with cerebral palsy (CP). The first intervention focuses on principles of enhancing complexity in movement variability, which has been shown to be effective in improving infant sitting postural control in previous research. The second intervention uses the paradigm of adding stochastic noise to the support surface to improve postural responses, a method used successfully in adults with decreased postural control. This project conducts three experiments: Experiment 1 utilizes nonlinear dynamics techniques to quantify changes in postural control as measured by the center of pressure time series in sitting; Experiment 2 utilizes the same children as in Experiment 1, but examines functional changes in arm use, focused attention, and play over time as sitting postural control improves; Experiment 3 examines changes in self-care, participation, and gross motor function to determine the relationship between changes in postural control and participation within the child's environment. These experiments enhance the ability to provide better methods to treat children with moderate to severe CP; and provide a better understanding of the development of cognition, function, play, and participation for children with CP in relation to improved postural control sitting.

## Field Initiated Projects (FIPs)

New Jersey

# Quality of Life in Traumatic Brain Injury Research and Practice: Development of the TBI-QOL

---

Kessler Medical Rehabilitation Research and Education Corporation (KMRREC)

1199 Pleasant Valley Way

West Orange, NJ 07052-1499

dtulsky@kesslerfoundation.net

**Principal Investigator:** David S. Tulsky, PhD

**Public Contact:** 973/243-6849; 973/243-6916; Fax: 973/243-3527

**Project Number:** H133G070138

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Phillip Beatty, PhD

**NIDRR Funding:** FY 07 \$199,830; FY 08 \$199,414; FY 09 \$199,910

**Abstract:** The scarcity of quality of life (QOL) measurement tools specific to traumatic brain injury (TBI) hinders the efforts of TBI intervention researchers, whose goal is to obtain valid and useful data to evaluate new treatment approaches. The goals of this study are to: (1) develop an instrument for comprehensively assessing the health-related quality of life (HRQOL) of persons with TBI, regardless of the severity of their condition; (2) enable comparisons of HRQOL in TBI with HRQOL in other neurologic conditions by integrating this instrument with the Neuro-QOL project; and (3) investigate and develop strategies for determining the HRQOL of individuals with even the most severe TBI, thus ensuring that these individuals will be represented in initiatives that use this instrument, rather than excluded as is often the case due to the difficulty of assessing such persons.

## Field Initiated Projects (FIPs)

New Jersey

### Improving New Learning and Memory in TBI: Applying fMRI to Measure Outcome

---

Kessler Foundation  
300 Executive Drive, Suite 10  
West Orange, NJ 07052  
nchiaravalloti@kesslerfoundation.net  
www.kesslerfoundation.org

**Principal Investigator:** Nancy D. Chiaravalloti, PhD

**Public Contact:** 973/530-3640; Fax: 973/736-7880

**Project Number:** H133G090078

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 09 \$198,744

**Abstract:** Impairments in new learning and memory are among the most common deficits in persons with traumatic brain injury (TBI). This project examines the impact of a targeted behavioral intervention on functional cerebral activity using functional Magnetic Resonance Imaging (fMRI). Research determines if improvement in learning and memory is associated with particular patterns of functional cerebral activity on fMRI. Participants receive pre and post-treatment fMRI evaluations, which are correlated with behavioral performance assessed concurrently. Additionally, participants complete a six-month post-treatment fMRI to examine the maintenance of treatment effects over time, as well as the impact of “booster sessions” to facilitate the maintenance of treatment effects from a neuro-functional perspective.

## Field Initiated Projects (FIPs)

North Carolina

# Improving Cervical and Breast Cancer Screening for Women with Intellectual Disabilities

---

University of North Carolina  
325 Pittsboro Street, Room 563-I; CB 3550  
Chapel Hill, NC 27599-3550  
parish@unc.edu

**Principal Investigator:** Susan Parish, PhD

**Public Contact:** 919/962-6434; Fax: 919/962-7557

**Project Number:** H133G090124

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Margaret Campbell, PhD

**NIDRR Funding:** FY 09 \$200,000

**Abstract:** This project addresses the need for training and support for women with intellectual disabilities to understand the importance of cervical and breast cancer screening, to assert their needs and concerns to their health care providers, and to manage their anxiety related to their health care needs. The Women Be Healthy intervention is designed to empower women with intellectual disabilities to improve their self-determination and knowledge related to preventive health care practices including cervical and breast cancer screening, and to enable these women to become active and equal partners in their health care. This project longitudinally tests the intervention by examining its impact on four outcomes: (a) women's self-determination related to preventive health care; (b) women's knowledge of their bodies and cervical and breast cancer screening; (c) women's anxiety related to preventive screenings; and (d) actual receipt of cervical and breast cancer screening. The mixed-methods study includes quantitative and qualitative components that complement each other to provide rich data. Quantitative methods consist of a longitudinal experimental design with multiple baseline measures; qualitative methods include focus groups. The experimental component uses a rigorous randomized control trial to obtain information about the efficacy and effectiveness of Women Be Healthy. Equally important, focus groups are conducted with women with intellectual disabilities who are enrolled in Women Be Healthy; the qualitative data obtained will enable a better understanding of the viewpoints and experiences of these women regarding preventive health care.

## Field Initiated Projects (FIPs)

Oregon

### **RISE - Reflection, Insight, and Self-Empowerment: Development of a Cognitive Behavioral Group Therapy Intervention for Women with Physical Activity Disabilities who Experience Depression**

---

Oregon Health and Science University  
School of Nursing  
3455 SW US Veterans Road, SN-637  
Portland, OR 97239-2941  
phillide@ohsu.edu

**Principal Investigator:** Dena Hassouneh, PhD

**Public Contact:** 503/494-2714; Fax: 503/494-3878

**Project Number:** H133G070214

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Joyce Y. Caldwell

**NIDRR Funding:** FY 07 \$198,701; FY 08 \$199,926; FY 09 \$187,385

**Abstract:** Rates of depression and suicide in women with physical disabilities (WPD) are up to five times higher than in the general population. Despite this disparity, few intervention studies that address the specific needs of this population are available. This project uses an existing cognitive behavioral therapy (CBT) intervention that has demonstrated effectiveness in reducing depressive symptoms in women without disabilities as a starting point to co-create an intervention that addresses the specific needs of WPD. The co-creation process occurs in the context of a partnership between the investigators, WPD in the community, and community-based organizations including Oregon Centers for Independent Living (CILs). The specific aims of this project are to: (1) Develop a cognitive behavioral group therapy intervention to address the specific needs of WPD who experience depressive symptoms; and (2) pilot-test the intervention to preliminarily evaluate its efficacy using a wait list control design. Phase I of the project involves development of the curriculum based on the following information sources: four focus groups conducted with WPD, review of empiric sources, community meetings, and feedback from our community advisors and consultants. Phase II pilot-tests the intervention using both quantitative and qualitative methods to assess its efficacy. A long-term goal of the proposed project is to increase the capacity of CILs and other community-based organizations across the country to offer a relevant, effective, accessible, and affordable intervention to help WPD with depression overcome this debilitating secondary condition.

**Field Initiated Projects (FIPs)**  
Pennsylvania

**Treatment Components and Active Ingredients in a Scheduled Telephone Intervention for Traumatic Brain Injury**

---

Albert Einstein Healthcare Network  
Moss Rehabilitation Research Institute  
60 East Township Line Road  
Elkins Park, PA 19027  
thart@einstein.edu  
[www.einstein.edu/facilities/mossrehab/index.html](http://www.einstein.edu/facilities/mossrehab/index.html)

**Principal Investigator:** Tessa Hart, PhD

**Public Contact:** 215/663-6153; Fax: 215/663-6113

**Project Number:** H133G070143

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** A. Cate Miller, PhD

**NIDRR Funding:** FY 07 \$199,880; FY 08 \$199,844; FY 09 \$197,373

**Abstract:** This project studies the treatment components and active ingredients of an intervention for post-acute, moderate and severe traumatic brain injury (TBI) known as Scheduled Telephone Intervention (STI). The STI was designed to help meet the multiple, evolving needs of people with TBI and their families following rehabilitation hospital discharge, and consists of telephone calls placed by a specially trained counselor at scheduled, gradually increasing intervals (seven calls in the first year post TBI). Using a theoretically motivated model of candidate active ingredients in three classes: treatment elements common to many interpersonal interventions (e.g., therapeutic alliance), treatment elements related to goal self-management/ executive function theories, and modifier variables such as total dose of treatment, the project analyzes the treatment components of the STI by coding archived, audiotaped treatment sessions (calls) from 175 participants in the treatment arm of the multicenter randomized controlled trial on the STI. This project: (1) develops an objective, reliable scoring system for measuring these treatment components; (2) characterizes relationships among pre-treatment participant characteristics (e.g., level of disability) and the treatment components delivered during a one-year course of STI; (3) examines the longitudinal trends in treatment components during one year of treatment; and (4) estimates the “activity” of various ingredients by examining the relationships among treatment components and one-year outcomes, accounting for the direct effects of baseline status on both treatment process and outcomes.

**Field Initiated Projects (FIPs)**  
Pennsylvania

**Zolpidem and Restoration of Consciousness: An Exploration of the  
Mechanism of Action**

---

Albert Einstein Healthcare Network  
Moss Rehabilitation Research Institute  
60 East Township Line Road  
Elkins Park, PA 19027

**Principal Investigator:** John Whyte, MD, PhD  
**Public Contact:** 215/663-6872; Fax: 215/663-6113

**Project Number:** H133G080066

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 08 \$199,553; FY 09 \$197,540

**Abstract:** Severe brain damage due to traumatic or non-traumatic causes frequently results in unconsciousness (coma) and, in a minority of cases, may lead to prolonged or permanent disorders of consciousness (DOCs) including the vegetative and minimally conscious states. This project assesses the responses of patients with DOCs to single doses of zolpidem and placebo in a double blind crossover design, initially with structured caregiver reporting. Repeat studies with quantitative assessment by a trained clinician follow for those who are believed to respond to the drug. Those classified as definite drug responders, along with a matched sample of non-responders, are studied intensively with a combination of structural and functional neuroimaging and electrophysiologic studies in an exploratory fashion to develop preliminary hypotheses about the neural substrate required for responding to zolpidem. Project activities include recruiting of a national sample of individuals with DOCs to participate in a consent-based, HIPAA compliant research registry, which will facilitate this and future studies. This study helps to define the potential size of the population who may benefit from zolpidem administration, encourages those who do benefit to seek ongoing clinical management, and allows formulation of hypotheses about the mechanism of drug response that can be tested definitively in subsequent research, making use of interested registry participants.

**Field Initiated Projects (FIPs)**  
Pennsylvania

**Understanding the Determinants of Motor Ability, Self-Care, and Play  
of Young Children with Cerebral Palsy**

---

Drexel University  
Physical Therapy and Rehabilitation Sciences  
245 North 15th Street, Mail Stop 502  
Philadelphia, PA 19102  
lisa.chiarello@drexel.edu

**Principal Investigator:** Lisa A. Chiarello, PT, PhD

**Public Contact:** 215/762-8805; Fax: 215/762-3886

**Project Number:** H133G060254

**Start Date:** November 01, 2006

**Length:** 36 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 06 \$149,981; FY 07 \$149,927; FY 08 \$149,359; FY 09 (No cost extension through 4/30/2010)

**Abstract:** The specific purpose of this project is to validate a multivariate model of determinants of change in basic motor ability and engagement in self-care and play of young children with cerebral palsy. The objective is to identify the child characteristics, family ecology, and rehabilitation and community services that optimize outcomes. The project targets a subset of children with cerebral palsy who as adults will not walk independently in the community and will require physical assistance for self-care at times throughout the day. Information on the factors that enhance outcomes for these children is particularly needed because families expend considerable time and resources to meet their children's health, education, and development needs. Knowledge of determinants of children's change in basic motor abilities and engagement in self-care and play will enable health care professionals and educators to provide evidence-based interventions, support families, and optimize community resources.

**Field Initiated Projects (FIPs)**  
Pennsylvania

---

**Virtual Reality Assessment and Treatment of Hemispatial Neglect**

---

Albert Einstein Healthcare Network  
Moss Rehabilitation Research Institute  
1200 West Tabor Road, Korman 213  
Philadelphia, PA 19141  
lbuxbaum@einstein.edu

**Principal Investigator:** Laurel Buxbaum, PsyD  
**Public Contact:** 215/456-5953; Fax: 215/456-5926

**Project Number:** H133G060086

**Start Date:** December 01, 2006

**Length:** 36 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 06 \$149,593; FY 07 \$149,819; FY 08 \$149,910; FY 09 (No-cost extension through 11/30/2010)

**Abstract:** The goal of this project is to address previous limitations in the assessment and treatment of neglect through the use of virtual reality (VR) technology. Hemispatial neglect, a failure to attend to and/or act on objects on the side of space opposite a brain lesion, is a common and persistent consequence of stroke, occurring in approximately 45 percent of the nearly 2 million Americans who have suffered a right hemisphere cerebral vascular accident. The neglect syndrome is associated with impairments in a wide range of activities of daily living, with significant consequences for functional independence. This project capitalizes on a number of VR's useful assets, including simulation of the spatial and cognitive demands of real world environments, quantification of aspects of performance, ready control of the experimental task, and ease of administration. The major aims are: (1) to develop and validate a VR navigation task measuring lateralized attention (the VRLAT), an extension of a sensitive VR task developed previously; (2) to perform clinical trials assessing the short-term efficacy of two VR-based treatments for neglect that induce different types of mismatch between proprioceptive and visual information, using the VRLAT as one of the measures of treatment response; and (3) to perform clinical trails of the two treatments focused on generalization and maintenance of gains with a longer course of treatment.

Field Initiated Projects (FIPs)  
South Carolina

## A Longitudinal Study of Risk for Hospitalization, Pressure Ulcers, and Subsequent Injuries After Spinal Cord Injury

---

Medical University of South Carolina  
College of Health Professions  
Department of Rehabilitation Sciences  
77 President Street, Suite 117  
PO Box 250700  
Charleston, SC 29425  
cokerj@musc.edu  
www.musc.edu/chp/sciorg/

**Principal Investigator:** James S. Krause, PhD 843/792-1337

**Public Contact:** Jennifer Coker, MPH 843/792-2605; Fax: 843/792-5649

**Project Number:** H133G050165

**Start Date:** December 01, 2005

**Length:** 36 months

**NIDRR Officer:** Phillip Beatty, PhD

**NIDRR Funding:** FY 05 \$149,992; FY 06 \$149,995; FY 07 \$149,997; FY 08 (No-cost extension through 11/30/2009); FY 09 (No-cost extension through 11/30/2010)

**Abstract:** The onset of spinal cord injury (SCI) increases the risk for the development of a number of secondary conditions that may adversely impact an individual's life and even result in early mortality. Research has yet to sufficiently identify the factors that lead to secondary conditions, as most studies are limited by not using theoretical or empirical models in selecting variables, generally focusing on a single condition, or by investigating only a limited number of risk factors. The purpose of this project is to perform a longitudinal study to identify protective and risk factors associated with the onset of multiple types of adverse health events among a large sample of individuals with SCI. In 1997-8, researchers collected prospective data on 1,391 participants who included a substantial number of women (n = 362) and racial/ethnic minorities (n = 359). Risk and protective predictors were selected based on a general empirical risk model. Predictor variables were first measured over a 10-month period in 1997-1998, including: (a) biographical status, (b) injury status, (c) psychological status, (d) environmental factors, and (e) health behaviors. Several health outcomes measures were also used. During the follow-up, the current project administers multiple outcome measures, with a focus on adverse events — pressure ulcers, subsequent injuries, hospitalizations, and treatments. To date, we have collected and entered data from 1549 participants, 835 of whom participated in the original study and an additional 714 that were added in conjunction with funding from another agency (29 new responses are being processed). These measures focus on adverse health events including hospitalizations, onset of pressure ulcers, and subsequent injuries. Structural equation modeling is performed to develop risk models for each outcome. A consumer advisory committee has met to review instrumentation and will continue to meet to make recommendations regarding all components of the project. The ultimate study goal is to enhance the lives of people with SCI by identifying the risk and protective factors associated with adverse health events to serve as a foundation for prevention efforts by rehabilitation and public health professionals.

## Field Initiated Projects (FIPs)

South Carolina

# Participation, Subjective Well-Being, Health, and Spinal Cord Injury: A 35-Year Longitudinal Study

---

Medical University of South Carolina  
College of Health Professions  
Department of Rehabilitation Sciences  
77 President Street, Suite 117  
PO Box 250700  
Charleston, SC 29425  
cokerj@musc.edu  
www.musc.edu/chp/sciorg/

**Principal Investigator:** James S. Krause, PhD 843/792-1337

**Public Contact,:** Jennifer Coker, MPH 843/792-2605; Fax: 843/792-5649

**Project Number:** H133G060126

**Start Date:** December 01, 2006

**Length:** 36 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 06 \$149,954; FY 07 \$149,987; FY 08 \$149,946; FY 09 (No-cost extension through 11/30/2010)

**Abstract:** The purpose of this 35-year longitudinal study is to identify the natural course of changes in participation, health, and subjective well-being among 5 cohorts of participants with spinal cord injury (SCI). Data were first collected in 1973 from 256 participants, 78 of whom have participated throughout the study. Using a revolving panel longitudinal design, participants are followed over time with new participant samples added to counter attrition. To date, there have been a total of 2,208 different participants over the six times of measurement, including nearly 100 who have lived 40 or more years with SCI. The proposed study is the seventh stage of data collection and addresses not only the natural course through analysis of both cross-sectional and multiple longitudinal elements, but also special issues including quality of life and termination of employment, change in living circumstance to a more restrictive environment, and the role of environmental factors on stability of health and quality of life. The project is currently conducting the primary data collection, having previously completed finalization of instrumentation, based on consumer panel recommendations and pilot testing. After conclusion of the primary data collection, the project utilizes consumer input into the development of recommendations for healthy living with aging for consumers and policy recommendations for rehabilitation professions and legislators. The consumer panel meets throughout the study, making recommendations at each stage of activities. At the beginning of the study, they met to review previous findings and the instrument package in order to eliminate redundant or unimportant measures or recommend additional constructs, and review the data collection protocol to insure the procedures are consistent with participant needs (e.g., format, instrument length). For the primary data collection, researchers are surveying the 1,568 respondents from the last follow-up using the Life Situation Questionnaire which has been used throughout the study and measures biographic and injury factors, activities of daily living, living

circumstances, employment, participation, health, and subjective well-being (life satisfaction and self-reported problems). Additional instruments are being used to measure depressive symptoms, participation, health outcomes, environment, pain, and alcohol history. Additional measures of coping and social support are included in the current stage of data collection. These represent a combination of core measures dating back to the first time of measurement in 1973 and newer measures that have been added regularly since that time to address more diverse issues. Several sets of data analyses are conducted, including sequential designs that combine cross-sectional and longitudinal elements, as there are essentially several embedded longitudinal designs (i.e., 5, 10, 15, 20, 24, 35 years). The project identifies policy recommendations at the individual (recommended practices), rehabilitative (programmatic needs), and legislative-federal level (allocation of funds in areas that will promote better outcomes). A consumer guide for healthy aging will be developed and distributed through consumer recommended sources to insure the findings reach the consumer level.

## Field Initiated Projects (FIPs)

South Carolina

# Ambulation and Secondary Complications: Participants with Chronic Spinal Cord Injury.

---

Medical University of South Carolina  
77 President Street, CHP-C  
PO Box 250700  
Charleston, SC 29425  
cokerj@musc.edu  
[www.sciandtbiresearch.blogspot.com/](http://www.sciandtbiresearch.blogspot.com/)

**Principal Investigator:** James S. Krause, PhD 843/792-1337

**Public Contact:** Jennifer Coker, MPH 843/792-7051; Fax: 843/792-5649

**Project Number:** H133G090059

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 09 \$199,986

**Abstract:** A wave of recent research has identified short-term benefits of gait training for people with spinal cord injury (SCI); yet, other research suggests there may be unforeseen long-term adverse consequences of ambulation. Analysis of existing data shows that pain interference and depressive symptoms were substantially higher among ambulatory participants who were dependent on others for assistance, even when compared with wheelchair users. This project builds upon this preliminary research by testing a comprehensive mediational model of the relationships of three classes of ambulation parameters (reliance on assistive devices and orthoses, reliance on people, functionality) with two sets of secondary conditions (pain and fatigue). Structural equation modeling is used to test the mediational model that three ambulation parameters are associated with risk of two chronic secondary conditions, which are in turn associated with variations in participation, depressive symptoms, and quality of life. By virtue of identifying the ambulation parameters that are associated with secondary conditions and when ambulation is a counterproductive after SCI, this study guides rehabilitation professionals and consumers in choosing the most appropriate mobility option (wheelchair or ambulation) that minimizes secondary conditions, promotes community participation, and enhances quality of life.

## Field Initiated Projects (FIPs)

Texas

# Effectiveness of a Group Cognitive-Behavioral Intervention for Depression after TBI and Factors that Affect Response to Treatment

---

Memorial Herman  
The Institute for Rehabilitation and Research (TIRR)  
Brain Injury Research Center  
2323 South Shepherd, Suite 907  
Houston, TX 77019  
anclark@bcm.edu; struchen@bcm.tmc.edu

**Principal Investigator:** Allison Clark, PhD; Margaret Struchen, PhD; 713/630-0519 (Clark); 713/630-0515 (Struchen)

**Public Contact:** Allison Clark, PhD 713/630-0519; Fax: 713/630-0529

**Project Number:** H133G070222

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** A. Cate Miller, PhD

**NIDRR Funding:** FY 07 \$197,754; FY 08 \$197,899; FY 09 \$199,940

**Abstract:** This project is designed to evaluate the effectiveness of a group cognitive behavioral intervention (CBT group) for treating depressive symptoms in persons with traumatic brain injury (TBI), to assess the impact of cognitive impairments on an individual's response to the CBT group, and to assess the impact of the CBT group on community participation and subjective well-being in persons with TBI. The initial phase of this study involves utilizing input from consumer and expert advisors to develop an approach and to adapt materials for use with persons with cognitive impairments. Once adapted, the intervention is piloted with a group of five individuals with at least mild symptoms of depression. After the pilot phase, a randomized, attention controlled clinical trial follows. Cognitive-behavioral approaches to treatment of depression have been demonstrated to have effectiveness in many populations, including a growing body of evidence for effectiveness in persons with other types of acquired brain injury. Given the inherent structure that such approaches utilize, which may help minimize cognitive demands, cognitive behavioral therapy would appear well-suited to use with persons with TBI.

## Field Initiated Projects (FIPs)

Washington

# Telephone and In-Person Cognitive Behavioral Therapy for Depression After Traumatic Brain Injury

---

University of Washington  
Department of Psychiatry and Behavioral Sciences  
Box 356560  
1959 NE Pacific Street  
Seattle, WA 98195  
fann@u.washington.edu

**Principal Investigator:** Jesse R. Fann, MD, MPH

**Public Contact:** 206/685-4280; Fax: 206/221-5414

**Project Number:** H133G070016

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 07 \$199,873; FY 08 \$199,981; FY 09 \$199,915

**Abstract:** This project continues previous efforts to establish evidence-based treatments for major depressive disorder (MDD) in people with traumatic brain injury (TBI). MDD is the most common psychiatric disorder among TBI survivors and has widespread negative effects on health and functional outcomes in people with TBI. This three-armed randomized controlled trial compares (1) in-person cognitive behavioral therapy for depression that is adapted for people with TBI (CBT-TBI) and (2) telephone-based CBT-TBI to a (3) usual depression care condition (UC). Previous research found that people with TBI and depression are highly interested in using psychotherapy to treat depression. Although psychotherapy is widely used in the treatment of general psychological aspects of TBI, solid evidence for the efficacy of psychotherapy for MDD in this population is absent. While CBT is the most evidence-based psychotherapy available for MDD, thus far there is only expert opinion to guide how CBT should be adapted for people with TBI (i.e., to accommodate patients with neurocognitive and neurobehavioral impairments). Therefore, this study adapts CBT specifically for people with TBI in a three-arm trial and measures the feasibility, acceptability, and potential effectiveness of this adapted intervention in both telephone-administered and in-person formats, compared with UC. The long-term goal of this research is to develop a feasible and effective manualized psychotherapy intervention to treat major depressive disorder in persons with TBI that is applicable across a wide array of settings.

## Field Initiated Projects (FIPs)

Washington

### **Natural History of Headache Following Mild Traumatic Brain Injury**

---

University of Washington  
Rehabilitation Medicine  
1959 NE Pacific Street, Box 356490  
Seattle, WA 98195-6490  
tbi.washington.edu

**Principal Investigator:** Jeanne M. Hoffman, PhD; Kathleen R. Bell, MD; Suriyya Dikman, PhD;  
206/221-6511

**Public Contact:** Jeanne M. Hoffman, PhD 206/221-6511; Fax: 206/685-3244

**Project Number:** H133G090022

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 09 \$199,923

**Abstract:** This purpose of this project is to evaluate headache in those with mild traumatic brain injury (TBI) with the ultimate goal of developing a clinical trial to treat post-traumatic headache (PTH). Headache is a common diagnosis after TBI with an estimate of 30-90 percent of those with TBI developing migrainous or other type of headache, compared to the general population with 4 percent prevalence. Based on available literature and clinical observations, individuals with mild TBI are thought to suffer from headaches more frequently compared to those with more severe injuries. This study leverages existing resources by building upon a study being currently conducted through the TBI Model System at the University of Washington examining the natural history of headache in moderate to severe TBI and addresses the problem of headaches in the full spectrum of TBI severity. This project uses similar assessment tools as in the ongoing TBI Model Systems study to describe the characteristics of PTH using standardized headache measures and classifications. Additionally, it identifies predictors of headache and compares acute and chronic headache, as well as examines the impact of headache on return to work and other outcomes. Assessments occur at injury, and 3, 6 and 12 months after injury. This study, in conjunction with the current TBIMS study, provides a comprehensive description and natural history of PTH available at present.

## Field Initiated Projects (FIPs)

Wisconsin

# Adverse Outcomes Following Inpatient Rehabilitation: Trends and Reasons

---

University of Wisconsin/Milwaukee  
Department of Occupational Therapy  
Enderis Hall 963  
PO Box 413  
Milwaukee, WI 53201  
johnsto@uwm.edu

**Principal Investigator:** Mark Johnston, PhD

**Public Contact:** 414/229-3616

**Project Number:** H133G060218

**Start Date:** November 01, 2006

**Length:** 36 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 06 \$149,129; FY 07 \$149,772; FY 08 \$149,888; FY 09 No-cost extension through 10/31/2010

**Abstract:** Research is needed to develop the knowledgebase and tools necessary to address the problem of increased rates of mortality and hospitalization following inpatient rehabilitation and to examine explanations for adverse outcomes. Descriptive analyses are conducted first to describe important trends in mortality and rehospitalization and to provide a basis for further analyses. Multi-variate risk adjustment models – based on impairments, functional level, age, and other patient characteristics in extant databases – are then developed to predict adverse outcomes. These risk adjustment models provide the necessary basis to distinguish the effects of patient severity and caseload from other factors that affect adverse outcomes. Researchers then examine and test the effects of important facility characteristics that may affect rates of adverse outcomes. The primary outcomes to be studied are mortality and rehospitalization; functional decline is also studied, as it, too, may indicate medical instability, and all three outcomes may or may not be predicted and affected by the same set of factors.

## Field Initiated Projects (FIPs)

Wisconsin

### **Conservative and Surgical Clubfoot Treatment: Multi-Center Study**

---

Marquette University  
Orthopaedic and Rehabilitation Engineering Center  
P.O. Box 1881  
Milwaukee, WI 53201-1881  
depps@mcw.edu  
www.orec.org  
www.marquette.edu

**Principal Investigator:** Peter A. Smith, MD; Gerald F. Harris, PhD, PE; 414/288-0696; 414/288-0698

**Public Contact:** Deborah Epps, Project Administrator 414/288-0696; Fax: 414/288-0713

**Project Number:** H133G060252

**Start Date:** January 01, 2007

**Length:** 24 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 06 \$150,000; FY 07 \$150,000; FY 08 \$150,000; FY 09 (No-cost extension through 12/30/2010)

**Abstract:** This study is designed to compare the longer-term effects of two methods of clubfoot treatment: (1) the conservative Ponseti technique of manipulation and casting, and (2) progressive surgical release. Clubfoot is a congenital foot deformity occurring in 1 in 1,000 births. It is commonly treated at pediatric orthopaedic hospitals and its incidence has been constant and not expected to decrease. Treatment is ideally accomplished early in life, within the first year, and is often successful in accomplishing a satisfactory, plantigrade foot, which will fit in shoes. Little is known, however about the function of treated clubfeet. This project investigates the longer-term outcome of children with treated clubfoot deformity using patient-based outcomes, functional instruments, motion analysis, radiological assessment, and postural stability. The objective is to determine whether functional outcomes, postural stability, and gait analysis characterize overall patient satisfaction and motor performance and to quantify the effects of orthopaedic interventions.

Small Business Innovation Research (SBIR), Phase II  
Utah

## Utility Arm – An Upper Limb Prosthesis

---

Motion Control, Inc.  
115 North Wright Brothers Drive  
Salt Lake City, UT 84116  
harold@utaharm.com

**Principal Investigator:** Harold H. Sears, PhD  
**Public Contact:** 801/326-3434; Fax: 801/978-0848

**Project Number:** H133S090131

**Start Date:** October 01, 2009

**Length:** 24 months

**NIDRR Officer:** Joyce Y. Caldwell

**NIDRR Funding:** FY 09 \$255,950

**Abstract:** This project continues to develop the innovative body-powered (BP) upper extremity (UE) prosthetic system, Utility Arm, which provides substantial improvements in functionality, comfort, and aesthetics for persons with UE deficiencies at all levels. The Utility Arm system increases independence and work capabilities for users of arm prostheses, with less complexity than a full myoelectric arm system, and at lower cost. Project goals include: (1) the design and fabrication of high-strength molded shells for the Utility Arm elbow, retaining the design features of the Utah Arm (enclosed forearm, forward hinge pin, exoskeletal structure, convenient battery compartment, etc.); (2) maintaining a body-powered elbow lock design of the Utility Arm which has the ability to function as a completely body-powered system; (3) development of the first plastic/composite adult BP terminal device (TD), the Gripper, featuring tough urethane surfaces for high friction, with no sacrifice in ruggedness, and at a competitive price; (4) development of rugged Quick Disconnect that is integrated into electric as well as BP TDs, is highly water/dirt resistant, and allows adjustable friction; (5) development of a water-resistant battery pack which extends the environments in which a hybrid arm prosthesis may be used with an electric TD and lock; and (6) improvement of the electronic control improving a wearer's control of hand, wrist, and lock when using non-EMG alternative inputs.



## Technology for Access and Function

---

With NIDRR’s research priorities, technology spans the goals of sustaining health and function, employment, and participation and community living reflecting the critical contributions of technology to successful outcomes for persons with disabilities in all these areas. At the individual level, the primary focus is on assistive technology devices that enhance the physical, sensory, and cognitive abilities of people with disabilities and assist them in participating and functioning more independently in the home, at work, in recreational settings, and at cultural and community events. At the systems level, the emphasis is on applying technology research and development in ways that enhance community integration, independence, productivity, competitiveness, and equal opportunity by mitigating or eliminating barriers found in large social systems such as public transportation, telecommunications, IT, and the built environment.

### Contents

Rehabilitation Engineering Research Centers (RERCs) .....	3
Disability and Rehabilitation Research Projects .....	26
Field Initiated Projects (FIPs) .....	30
Small Business Innovation Research (SBIR), Phase I.....	57
Small Business Innovation Research (SBIR), Phase II .....	72



Rehabilitation Engineering Research Centers (RERCs)  
California

**Rehabilitation Engineering Research Center: Develop and Evaluate  
Technology for Low Vision, Blindness, and Multi-Sensory Loss**

---

The Smith-Kettlewell Eye Research Institute  
2318 Fillmore Street  
San Francisco, CA 94115  
rerc@ski.org  
www.ski.org/Rehab

**Principal Investigator:** John A. Brabyn, PhD 415/345-2110

**Public Contact:** Deborah Gilden, PhD 415/345-2000; Fax: 415/345-8455

**Project Number:** H133E060001

**Start Date:** August 01, 2006

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 06 \$950,000; FY 07 \$950,000; FY 08 \$950,000; FY 09 \$950,000

**Abstract:** This Center conducts a program of research and development to enhance the independence of blind, visually impaired, and deaf-blind individuals. Research includes investigation of assessment methods to guide rehabilitation of infant cortical visual impairment; practical innovations in assessment and interventions for elders with visual impairments; and development of independent assessment guidelines for emerging visual prostheses. The Center also conducts research in access to graphical information for blind, visually impaired, and deaf-blind persons, developing tools for rapid screen overview, auditory and tactile graph presentation, image classification, and on-demand production of tactile street maps. To address signage and travel information, the project is investigating information interfaces for travelers who are blind or visually impaired, and innovative computer vision methods to find and read existing print signs and labels. To address the rising barriers to accessing visual displays and appliances for employment and daily living, there is a designer education campaign and development of a universal talking LCD/LED display reader, practical consumer tools, and jobsite adaptations for employees who are blind or visually impaired. Other projects include development of a new-generation robotic finger-spelling hand for deaf-blind communication, and pilot investigations of difficulties in lipreading and sign language reading experienced by those with combined auditory and visual impairment.

Rehabilitation Engineering Research Centers (RERCs)  
Colorado

**Rehabilitation Engineering Research Center for the Advancement of  
Cognitive Technologies (RERC-ACT)**

---

University of Colorado  
Health Sciences Center  
1245 East Colfax, Suite 200  
Denver, CO 80218  
cathy.bodine@uchsc.edu  
www.lerc-act.org

**Principal Investigator:** Cathy Bodine, PhD

**Public Contact:** 303/315-1281; Fax: 303/837-1208

**Project Number:** H133E040019

**Start Date:** November 01, 2004

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 04 \$850,000; FY 05 \$850,000; FY 06 \$850,000; FY 07 \$850,000; FY 08 \$850,000; FY 09 (No-cost extension through 4/30/2010)

**Abstract:** The goal of this RERC is to research, develop, evaluate, implement, and disseminate innovative technologies and approaches that will have a positive impact on the way in which individuals with significant cognitive disabilities function within their communities and workplace. The Center incorporates: (1) a consumer-driven model for identifying the most significant barriers to independent living and workforce participation; (2) an approach that is balanced and uses both well-established and newly emerging technologies in its development projects; (3) a focus both on functional limitations and specific disabilities; and (4) mutually beneficial partnerships with private industry and public agencies. Research activities include: needs, knowledge, barriers, and uses of AT by persons with cognitive disabilities; technology for remote family support for people with cognitive disabilities; influences on AT use, non-use, and partial and inappropriate use by persons with traumatic brain injury; AT enhancement of written expression for children and adults; needs assessment for creating affordable, context-aware technologies; and technology to promote decision-making skills and self-determination for students with cognitive disabilities. Development activities include: Design, implementation, and deployment of context aware technologies for persons with cognitive disabilities residing in community living environments; development of HealthQuest, an Internet-based product that enables individuals with intellectual disabilities to become active participants in their own health care; XML repository of common tasks; batteryless micropower sensors for context aware technologies; perceptive animated interfaces for workforce training; and environmentally appropriate behavioral cues for individuals with TBI.

Rehabilitation Engineering Research Centers (RERCs)  
Colorado

**Rehabilitation Engineering Research Center for Cognitive  
Rehabilitation**

---

University of Colorado  
Health Sciences Center  
601 East 18th Avenue, Suite 130  
Denver, CO 80203  
cathy.bodine@ucdenver.edu

**Principal Investigator:** Cathy Bodine, PhD 303/315-1281  
**Public Contact:** 303/315-1281; Fax: 303/837-1208

**Project Number:** H133E090003

**Start Date:** October 01, 2009

**Length:** 60 months

**NIDRR Officer:** Margaret Campbell, PhD

**NIDRR Funding:** FY 09 \$949,999

**Abstract:** This project focuses on the research and development of cognitive technologies for individuals with cognitive disabilities across the life span. Cognitive technologies increase the quality of life of consumers, their families, and caregivers; expand inclusion in all aspects of life and work; and increase independence. Focusing on three main areas, this project addresses: (1) development of a product usability testing facility focusing on rigorous industry-standard product testing protocols for cognitive assistive technology; (2) development of a core software/sensor platform to support mobile animated agents used for multiple applications; and (3) development of — currently a critical missing link for cognitive technology information technology access and technologies. Project activities focus on the challenges of people with cognitive disabilities in obtaining and maintaining employment, and succeeding in the workplace. Moreover, this project addresses a number of specific challenges such as effective non-linear job coaching, coaching for jobs and tasks involving multiple workplace locations, returning to a task after the many types of interruptions presented in the modern technological workplace, and learning vocabulary for the workplace. Long-term project outcomes include increasing employment, job longevity, and job satisfaction people with cognitive disabilities.

Rehabilitation Engineering Research Centers (RERCs)  
District of Columbia

**Rehabilitation Engineering Research Center on Hearing Enhancement**

---

Gallaudet University  
Department of Hearing, Speech, and Language Sciences  
800 Florida Avenue, NE, MTB 116  
Washington, DC 20002  
RERC.HE@gmail.com  
www.hearingresearch.org

**Principal Investigator:** Matthew H. Bakke, PhD  
**Public Contact:** 202/651-5335; Fax: 202/651-5324

**Project Number:** H133E080006  
**Start Date:** October 01, 2008  
**Length:** 60 months  
**NIDRR Officer:** Thomas Corfman  
**NIDRR Funding:** FY 08 \$949,935; FY 09 \$949,997

**Abstract:** This project builds and tests components of an innovative model of aural rehabilitation (AR) tools, services, and training in order to assure a better match between hearing technologies and individuals in their natural environments. Project goals include: (1) improving assessment, fitting, availability, and use of hearing technologies; (2) increasing the quality, availability, and knowledge of AR services; (3) training of consumers, service providers, and future researchers, developers, and practitioners; and (4) transferring technology and knowledge to agencies, standards bodies, consumers, and the professions who influence the communicative effectiveness of those who are deaf or hard of hearing. Additional component projects are designed to fall into four areas: (1) AR projects improve the assessment and treatment of individuals in need of AR; (2) hearing technology addresses the technology challenges of real-life use of assistive technologies, hearing aids, and cochlear implants; (3) training programs provide training of individuals who will become the rehabilitation innovators of the future; and (4) dissemination and advocacy programs transfer technology and knowledge to agencies, standards bodies, consumers, and hearing professionals.

Rehabilitation Engineering Research Centers (RERCs)  
Georgia

**Rehabilitation Engineering Research Center for Wireless Technologies**

Georgia Institute of Technology  
Virginia C. Crawford Research Institute  
Shepherd Center  
2020 Peachtree Road, NW  
Atlanta, GA 30309  
wirelessrerc@shepherd.org  
www.wirelessrerc.org

**Principal Investigator:** Helena Mitchell, PhD

**Public Contact:** John Morris 404/367-1288; Fax: 404/350-7596

**Project Number:** H133E060061

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 06 \$949,999; FY 07 \$949,999; FY 08 \$949,998; FY 09 \$949,999

**Abstract:** The mission of this project is to: (1) promote equitable access to and use of wireless technologies by persons with disabilities; and (2) encourage adoption of Universal Design in future generations of wireless technologies. To accomplish these aims, the RERC is organized into three main project sections: The Research Section is comprised of four research initiatives: Facilitating User Centered Research is designed to establish a research portal that communicates to industry the needs of people with disabilities for wireless technologies. Customer-driven Usability Assessment enhances the usability of future generations of cell phones and other wireless products by developing a methodology for assessing their usability by representative users with disabilities. Collaborative Policy Approaches to Promote Equitable Access develops, implements, and evaluates specific policy initiatives related to accessible wireless technologies and services. Advanced Auditory Interfaces develops, tests, and disseminates guidelines for the design of advanced auditory interfaces for cell phones and other handheld electronic devices. The Development Section includes four projects that promote equitable access to and use of wireless technologies by persons with disabilities through the development of prototype designs: Alternative Interfaces continues its work on the V2 standards for universal remote consoles and Real-time Location-based Information Services expands on previous work on the RERC's personal captioning system by addressing the needs of patrons with vision or hearing impairments in three different venues: exhibit spaces, airports, and hospitals. Development of Wireless Emergency Communications and Ensuring Access to Emergency Assistance both focus on the area of wireless emergency communications for people with disabilities; developing wireless communication technology to be used by emergency personnel to contact individuals with disabilities, and by people with disabilities to signal the need for assistance. The Training and Dissemination Section promotes the synthesis of new knowledge into practice with the RERC's State of the Science conference and a number of initiatives designed to educate consumers, providers, and other professionals, including: university courses, an annual student design competition, conference tutorials, and workshops, all geared toward access and usability of mobile wireless technologies.

Rehabilitation Engineering Research Centers (RERCs)  
Georgia

## Rehabilitation Engineering Research Center on Workplace Accommodations

---

Georgia Institute of Technology  
Center for Assistive Technology and Environmental Access (CATEA)  
490 Tenth Street, NW  
Atlanta, GA 30318  
workrerc@coa.gatech.edu  
www.workrerc.org

**Principal Investigator:** Karen Milchus 404/894-0393  
**Public Contact:** 404/894-1414; 800/726-9119; Fax: 404/894-9320

**Project Number:** H133E070026

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 07 \$949,999; FY 08 \$949,999; FY 09 \$950,000

**Abstract:** The Workplace Rehabilitation Engineering and Research Center (RERC) identifies, develops, and promotes new assistive and universally designed technologies that maximize independence and participation of people with disabilities in the workplace. It focuses on the application of universal design (UD) concepts to improve the utility of workplace tools and devices for all workers through research, development, training, and dissemination. Research activities investigate five topics identified by current RERC research: user needs, longitudinal cost/benefits of accommodations, strategies used by aging workers, the impact of policy on access to and utilization of accommodations, and the effect of accommodations on employee participation in the workplace. Several development activities create and validate new workplace assessment tools for use by practitioners and employees. Other development activities design, prototype, and evaluate new workplace accommodations. Universally designed workstations and human-computer interfaces are being developed. In addition, the Work RERC develops technology for workers with identified and unmet accommodation needs, including prompting aids for employees with developmental disabilities and accommodations for employees with communication disabilities. Finally, Work RERC training activities include both instruction and evaluation of training outcomes and will target VR professionals, workers with disabilities, and students interested in design and engineering.

Rehabilitation Engineering Research Centers (RERCs)  
Georgia

## Rehabilitation Engineering Research Center for Wheeled Mobility in Everyday Life

---

Georgia Institute of Technology  
Center for Assistive Technology and Environmental Access (CATEA)  
490 Tenth Street, NW  
Atlanta, GA 30318  
mobilityrerc@coa.gatech.edu  
mobilityrerc.catea.org/

**Principal Investigator:** Stephen Sprigle, PhD, PT 404/385-4302

**Public Contact:** 404/894-4960 (V/TTY); Fax: 404/385-9320

**Project Number:** H133E080003

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 08 \$949,998; FY 09 \$949,995

**Abstract:** This project promotes new ways of conceptualizing and understanding wheeled mobility—focusing on devices and interventions that impact device use and activity performance. This approach enables as many individuals as possible to actively participate in everyday life. Project goals include four integrated program areas in research, development, training, and dissemination that utilize a variety of methodologies and scientific approaches taking research out of the laboratory and putting it into real-world, everyday environments. Research centers on four activities: R1. Pressure Ulcer Prevention: Susceptibility and Pressure Relief Effectiveness; R2. Effects of Mobility Device and Environmental Facilitators on Activity and Participation; R3. Improved Training to Improve Function which studies the effect of immediate video feedback on acquisition of advanced wheelchair skills, and the impact of an innovative wheelchair Tai Chi program on health, activity, and participation; and R4. Improved Wheelchair Prescription which examines effects of wheelchair type on performance of elders in public spaces and investigate how well clinicians predict the wheelchair use of their clients. Development projects address standards and test methods and commercial projects and include: D1. Development of Standards and Test Methods which develops three wheelchair cushion standards and a wheelchair test method to accurately measure the mechanical effort required to propel manual wheelchairs; D2. Inventor-Driven Product Development that assists in developing products that have been conceived by small companies and inventors; and D3. Development of Orphan Technologies, developing devices that have small markets but serve useful needs. Four training projects focus on a variety of audiences including: T1. Evidence-Based Online Wheelchair Seating and Positioning Course; T2. Advanced Rehabilitation Research Training; T3. Creating Rehabilitation Engineering and Assistive Technology Experiences; and T4. State of the Science Conference.

Rehabilitation Engineering Research Centers (RERCs)  
Illinois

**Rehabilitation Engineering Research Center on Recreational  
Technologies and Exercise Physiology Benefiting Persons with  
Disabilities (RERC RecTech)**

---

University of Illinois at Chicago  
Department of Disability and Human Development  
1640 West Roosevelt Road, Suite 712  
Chicago, IL 60608-6904  
jrimmer@uic.edu  
www.rectech.org

**Principal Investigator:** James H. Rimmer, PhD  
**Public Contact:** 312/413-9651; Fax: 312/355-4058

**Project Number:** H133E070029

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 07 \$950,000; FY 08 \$950,000; FY 09 \$950,000

**Abstract:** This center includes a coordinated set of research, development, capacity building, and dissemination projects focused on facilitating and promoting healthier, more active lifestyles for people with disabilities. The key target areas for the research and development projects are improving access to recreation and exercise venues and equipment, increasing opportunities for participation by people with disabilities in beneficial exercise, using technology to support greater adherence to regular exercise, and promoting better health and function for people with disabilities through active lifestyles. The research and development agenda of the RERC provides the context for a growing capacity building effort targeting not only the next generation of leadership in engineering, research, and clinical practice but also infusing rehabilitation engineering concepts and principles into the curriculum of related disciplines. A broad and active dissemination program makes effective use of a non-profit organization advocating for inclusive recreation and exercise opportunities for people with disabilities: The Inclusive Fitness Coalition (IFC - [www.incfit.org](http://www.incfit.org)) currently has 53 member organizations representing the recreation and fitness industry, fitness and exercise science professionals, researchers, disability organizations, professional organizations, rehabilitation centers, and others united by a common goal of furthering inclusive opportunities for people with disabilities to participate in recreation and exercise in their own communities.

Rehabilitation Engineering Research Centers (RERCs)  
Illinois

**Rehabilitation Robotics and Telemanipulation Machines Assisting  
Recovery from Stroke Rehabilitation Engineering Research Center  
(MARS-RERC)**

---

Rehabilitation Institute Research Corporation  
Sensory Motor Performance Program (SMPP) and the Department of Physical Medicine and  
Rehabilitation at Northwestern University  
345 East Superior Street, ONT-924  
Attn: MARS-RERC Research Administration Chicago  
Chicago, IL 60611-2654  
medevitt@ric.org; j-patton@northwestern.edu  
www.mars-lerc.org

**Principal Investigator:** W. Zev Rymer, MD, PhD; Jim Patton, PhD; 312/238-3919  
**Public Contact:** Jim Patton, PhD 312/238-1277; Fax: 312/238-7605

**Project Number:** H133E070013

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 07 \$949,775; FY 08 \$949,779; FY 09 \$949,751

**Abstract:** Machines Assisting Recovery from Stroke Rehabilitation (MARS-RERC) is a multi-institutional center designed to evaluate the utility of simple robotic devices for providing rehabilitation therapy after hemispheric stroke. The broad objective is to develop devices that assist the therapist in stroke treatments that are rationally based, intensive, and long in duration. Such devices also monitor progress, and help to improve the functional performance of stroke survivors, with the intent that there will be a greater likelihood of their return to community and to work. The Center designs and implements a program of research and development, investigating the use of robot devices and related engineering technologies for better restoration of function in stroke survivors. The focus is largely on stroke, because this is the most common neurological disorder requiring intensive and prolonged rehabilitation. Research activities center on the application of new approaches that improve recovery outcomes of the entire body during either upper extremity reach-and-grasp activities or lower body locomotion activities. MARS-RERC includes six programs of study: (1) Development of new capabilities of the Lokomat® walking robot; (2) development of hand technology involving reaching; (3) development of telerehabilitation using an arm gravity-assistance device; (4) research benefits of error augmentation in relearning after stroke; (5) research benefits of overground walking the KineAssist® robot; and (6) training initiative on rehabilitation-oriented engineering design. Research training is a critical component that includes medical students, physician residents in physical medicine, graduate students in engineering and neuroscience, and allied health clinicians including physical and occupational therapists. There is a separate advanced education and training project dedicated to the design of robotic devices (Project 6 above) for rehabilitation as part of Northwestern University's highly successful initiative in engineering design education. MARS-RERC is hosted at the Rehabilitation Institute of Chicago (RIC) in conjunction with multi-national partners at Northwestern University, University of Illinois at Chicago, University of California at Irvine, ETH in Zurich, and INAOE, Puebla, Mexico.

Rehabilitation Engineering Research Centers (RERCs)  
Illinois

## Rehabilitation Engineering Research Center for Prosthetics and Orthotics

---

Northwestern University  
345 East Superior Street, Room 1441  
Chicago, IL 60611  
reiu@northwestern.edu  
[www.feinberg.northwestern.edu/depts/repoc/index.html](http://www.feinberg.northwestern.edu/depts/repoc/index.html)

**Principal Investigator:** Steven Gard, PhD; Stefania Fatone, PhD, BPO  
**Public Contact:** 312/238-6500; Fax: 312/238-6510

**Project Number:** H133E080009

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 08 \$949,999; FY 09 \$949,999

**Abstract:** This project improves the quality of life for persons who use prostheses and orthoses through creative applications of science and engineering to prosthetics and orthotics (P&O) through seven research projects and five development projects. These projects enhance the ability of prosthesis and orthosis users to perform activities of daily living and negotiate their daily environment safely and effectively, engage in their chosen employment/vocation, and improve their health through the safe and effective use of P&O devices. Increasing understanding about the fundamental biomechanics of standing, walking, reaching, grasping, and the corresponding utilization of P&O devices for these activities enable better evaluation and improvement upon current P&O technologies. Research is broad in scope involving lower-limb prosthetics, lower-limb orthotics, upper-limb prosthetics, analysis of spinal motion during gait in users of prostheses, and utilization of process and outcome information to improve P&O care delivery. Additional focus is given to the needs of farmers and ranchers with amputations. Development projects focus on human locomotion, reaching, grasping, and manipulation; and providing efficient and cost-effective production of prosthetic components with the goal to assist P&O clinicians in their daily practices by providing them with new mechanisms, evaluation and designs tools, and information about prosthetic/orthotic usage.

Rehabilitation Engineering Research Centers (RERCs)  
Michigan

**Rehabilitation Engineering Research Center on Wheelchair  
Transportation Safety**

---

University of Michigan  
Transportation Research Institute  
2901 Baxter Road  
Ann Arbor, MI 48109-2150  
www.rercwts.org

**Principal Investigator:** Lawrence W. Schneider, PhD (Michigan); Patricia Karg, MS (Pittsburgh);  
Gina Bertocci, PhD (Louisville)

**Public Contact:** Lawrence W. Schneider, PhD 734/936-1103; Fax: 734/647-3330

**Project Number:** H133E060064

**Start Date:** November 01, 2006

**Length:** 60 months

**NIDRR Officer:** William V. Schutz, PhD, MSW, MPH

**NIDRR Funding:** FY 06 \$899,753; FY 07 \$899,708; FY 08 \$899,749; FY 09 \$899,751

**Abstract:** Research conducted by the RERC on Wheelchair Transportation Safety (RERC WTS) advances the safety, usability, and independence of people who remain seated in their wheelchairs when traveling in motor vehicles. Research and development projects involve close collaboration with manufacturers, transit providers, vehicle modifiers, clinicians, and consumers to ensure quick translation of results into meaningful solutions that benefit travelers with mobility disabilities. Projects range from developing innovative solutions for forward-facing and rear-facing wheelchair passenger stations in large accessible transit vehicles, to investigating issues of school-bus transportation for children seated in WC-19 compliant and noncompliant wheelchairs, and to improving frontal- and rear-crash protection for occupants in private vehicles. Continuing research from previous grants, the RERC WTS extends the in-depth investigations of adverse events involving wheelchair-seated travelers, but also conducts a study of the transportation experience of wheelchair users in large public transit vehicles, including the process of entering and exiting the vehicle, accessing the wheelchair station, securing the wheelchair and restraining the occupant, and traveling to and from destinations. In addition to conducting research and development in six project areas, RERC WTS staff engages in information dissemination, training of future researchers, transferring innovative technology concepts to the marketplace, developing and revising voluntary industry standards, and convening the second State-of-the-Science Workshop on Wheelchair Transportation Safety. The RERC is a partnership of the University of Michigan Transportation Research Institute, the University of Pittsburgh, the University of Louisville, and the University of Colorado.

Rehabilitation Engineering Research Centers (RERCs)  
New Jersey

**Rehabilitation Engineering Research Center on Children with  
Orthopedic Disabilities**

---

New Jersey Institute of Technology  
323 M. L. King Street  
Newark, NJ 07102  
foulds@njit.edu  
rerc.njit.edu/

**Principal Investigator:** Richard A. Foulds, PhD  
**Public Contact:** 973/596-3335

**Project Number:** H133E050011

**Start Date:** November 01, 2005

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 05 \$949,700; FY 06 \$949,646; FY 07 \$949,266; FY 08 \$949,266; FY 09 \$949,455

**Abstract:** This project focuses on research and development assisting children to achieve their full potential as productive citizens. The work plan includes a roster of projects designed to enhance the physical skills of these children to be successful in learning, playing, and living independently. This project includes three research and three development projects, as well as training projects serving the needs of children, families, students, and professionals. Project selection is driven by the RERC's vision of RERCs as a source of innovation and of new technologies designed to address the serious problems faced by children with disabilities. This project is a collaboration of New Jersey Institute of Technology, the Children's Specialized Hospital, and Rutgers University, bringing together two academic departments of biomedical engineering with the nation's largest pediatric rehabilitation hospital.

Rehabilitation Engineering Research Centers (RERCs)  
New York

**Rehabilitation Engineering and Research Center (RERC) on Universal  
Design and the Built Environment at Buffalo**

---

University at Buffalo  
The State University of New York  
School of Architecture and Planning  
378 Hayes Hall  
Buffalo, NY 14214  
rercud@ap.buffalo.edu  
www.ap.buffalo.edu/idea/rercud.asp

**Principal Investigator:** Edward Steinfeld, ArchD; Geoff Fernie; 716/829-3485

**Public Contact:** Danise Levine 716/829-3485, ext. 329; Fax: 716/829-3861

**Project Number:** H133E050004

**Start Date:** November 01, 2005

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 05 \$949,996; FY 06 \$949,994; FY 07 \$949,999; FY 08 \$949,997; FY 09 \$949,993

**Abstract:** The RERC on Universal Design and the Built Environment (RERC-UD) is engaging the public and private sectors across four broad domains of the built environment: (1) community infrastructure, (2) public buildings, (3) housing, and (4) products. The RERC-UD generates strategically important research, development, education, and dissemination deliverables, to advance the fields of rehabilitation engineering and environmental design. The RERC-UD deliverables integrate universal design principles within the generally accepted models, methods, and metrics of design and engineering professionals in the building and manufacturing industries. Research projects document the efficacy of existing universally designed environments, and generate critical human factors data essential to resolving design and engineering problems. Development projects create evidence-based guidelines to implement universal design concepts within the tools of the design professions, and formulate methods to evaluate the usability of designs for people with mobility, sensory, and cognitive impairments. The usefulness of the guidelines and evaluation methods are demonstrated by applying them to the development of innovative products and environments with industry partners. Training activities include online certificate programs in universal design for design professionals, builders, manufacturers, and consumer advocates; a web portal and site for students and educators; and graduate programs that train researchers in advanced methods. Dissemination outputs include traditional refereed and trade publications, an extensive website with downloadable information products and design tools, model home demonstrations in local communities across the country, and outreach activities with professional, business, and standards development organizations. The RERC-UD's state-of-the-science conference includes stakeholders in a plan to elevate universal design to an integral component of the mainstream design and engineering disciplines.

Rehabilitation Engineering Research Centers (RERCs)  
North Carolina

**Rehabilitation Engineering Research Center on Communication  
Enhancement**

---

Duke University  
Department of Surgery  
Division of Speech Pathology and Audiology  
Duke University Medical Center, Box 3888  
Durham, NC 27710  
aac-lerc@mc.duke.edu  
www.aac-lerc.com

**Principal Investigator:** Frank DeRuyter, PhD 919/684-6271

**Public Contact:** Kevin Caves, ME, ATP 919/681-9983; Fax: 919/681-9984

**Project Number:** H133E030018

**Start Date:** November 01, 2003

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 03 \$949,977; FY 04 \$949,973; FY 05 \$949,974; FY 06 \$949,976; FY 07 \$949,974; FY 08 (No-cost extension through 10/31/2009); FY 09 (No-cost extension through 4/30/2010)

**Abstract:** The mission of this RERC is to assist people who use augmentative and alternative communication (AAC) technologies in achieving their goals across environments. The goals and objectives of the RERC are to advance and promote AAC technologies through the outputs and outcomes of research and development activities and to support individuals who use, manufacture, and recommend these technologies in ways they value. Research projects cover the following areas: (1) improving AAC technology to better support societal roles; (2) enhancing AAC access by reducing cognitive/linguistic load; and (3) enhancing AAC usability and performance. Projects address issues of literacy, telework, specialized vocabulary, contextual scenes and intelligent agents, improving interface performance, and monitoring and simulating communication performance. Development activities include: (1) technology and policy watch; (2) new interfaces; and (3) reducing the cognitive/linguistic burden on AAC users. Activities address monitoring emerging technologies, standards, and policies; technologies to supplement intelligibility of residual speech, dysarthric speech, and gesture recognition; brain interface; AAC WebCrawling; and enhancing the role of listeners in AAC interactions.

Rehabilitation Engineering Research Centers (RERCs)  
North Carolina

**Rehabilitation Engineering Research Center for Communication  
Enhancement (AAC-RERC)**

---

Duke University  
Department of Surgery  
Division of Speech Pathology and Audiology  
220 West Main Street  
Durham, NC 27705  
aac-rerc@mc.duke.edu  
www.aac-rerc.com

**Principal Investigator:** Frank DeRuyter, PhD; David Beukelman, PhD; 919/684-6271  
**Public Contact:** Jessica House 919/681-9983; Fax: 919/681-9984

**Project Number:** H133E080011

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 08 \$949,965; FY 09 \$949,991

**Abstract:** The mission of the AAC-RERC is to assist people who use augmentative and alternative communication (AAC) technologies in achieving their goals across environments. The goals and objectives of the AAC-RERC are to advance and promote AAC technologies through the outputs and outcomes of its research and development activities; and to support individuals who use, manufacture, and recommend these technologies in ways they value. The project builds on collaborative relationships with researchers and developers both in and outside of the field of AAC and assistive technology, including DynaVox Technologies, the Federal Laboratory Consortium, Department of Navy, and Research In Motion among others. Research projects include: (1) AAC technologies to reduce cognitive/linguistic load; (2) new interface strategies for AAC technologies; and (3) AAC technologies to increase usability, acceptance, and learnability. Development activities include: (1) connecting to the world - AAC access to mainstream technologies; (2) new interface strategies for AAC technologies; and (3) usability, acceptance, and learnability of AAC technologies.

Rehabilitation Engineering Research Centers (RERCs)  
Pennsylvania

## Rehabilitation Engineering Research Center on Telerehabilitation

---

University of Pittsburgh  
School of Health and Rehabilitation Sciences  
Rehabilitation Science and Technology  
2310 Jane Street, Suite 1300  
Pittsburgh, PA 15203  
dkeelan@pitt.edu  
www.rerctr.pitt.edu

**Principal Investigator:** David M. Brienza, PhD 412/586-6907

**Public Contact:** Debby Keelan 412/586-6905; Fax: 412/586-6910

**Project Number:** H133E040012

**Start Date:** December 01, 2004

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 04 \$849,890; FY 05 \$849,930; FY 06 \$849,922; FY 07 \$849,991; FY 08 \$849,984

**Abstract:** The vision of this RERC is to serve people with disabilities by researching and developing methods, systems, and technologies that support remote delivery of rehabilitation and home health care services for individuals who have limited local access to comprehensive medical rehabilitation outpatient and community-based services. Research and development activities include: (1) Telerehabilitation Infrastructure and Architecture: development of an informatics infrastructure and architecture that builds on existing programs and technologies of the University of Pittsburgh Medical Center's e-Health System, supports the RERC's research and development activities, meets HIPAA requirements, provides a test-bed for third party telerehabilitation applications, and can be used as a model for future telerehabilitation infrastructure; (2) Telerehabilitation Clinical Assessment Modeling: development of a conceptual model for matching consumers with telerehabilitation technology. The model is user-oriented and driven by consumer experiences regarding satisfaction, simplicity, and reimbursability of telerehabilitation; (3) Teleassessment for the Promotion of Communication Function in Children with Disabilities: development of a web-based teleassessment infrastructure that links therapists and child participants, allowing therapeutic content to be adapted to the child's individual progress and abilities; (4) Remote Wheeled Mobility Assessment: determines if individuals with mobility impairments can obtain appropriate prescriptions for wheeled mobility devices through the use of a telerehabilitation system based upon information and telecommunications technologies; (5) Behavioral Monitoring and Job Coaching in Vocational Rehabilitation: researches technologies to conduct remote delivery of rehabilitation services to individuals who have limited access to rehabilitation services that are necessary to participate in and achieve education and employment outcomes in their community; and (6) Remote Accessibility Assessment of the Built Environment: determines the effectiveness of a remote accessibility assessment system in evaluating the built environment of wheeled mobility device users.

**Rehabilitation Engineering Research Centers (RERCs)**  
Pennsylvania

**Rehabilitation Engineering Research Center on Spinal Cord Injury**

---

University of Pittsburgh  
School of Health and Rehabilitation Sciences  
Rehabilitation Science and Technology  
2310 Jane Street, Suite 1300  
Pittsburgh, PA 15203  
dkeelan@pitt.edu

**Principal Investigator:** David M. Brienza, PhD 412/586-6907

**Public Contact:** Debby Keelan 412/586-6905; Fax: 412/586-6910

**Project Number:** H133E070024

**Start Date:** October 01, 2007

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 07 \$949,999; FY 08 \$950,000; FY 09 \$950,000

**Abstract:** This center conducts research, development, and evaluation of innovative technologies and approaches that will improve the treatment, rehabilitation, employment, and reintegration into society of persons with spinal cord injury (SCI). Research and development activities address tissue integrity management, upper extremity musculoskeletal injury prevention, and bladder function. Specific projects address: (1) the development of computational models of inflammation and healing for assessment of person-specific interventions and for general technology/intervention evaluations for pressure ulcer prevention and detection, (2) evaluation of the effects of support surface active cooling and low shear followed by development and evaluation of a novel seat cushion incorporating these features, (3) the development and evaluation of tools for manual wheelchair propulsion training, (4) the evaluation of novel manual wheelchair propulsion devices for preventing shoulder injury, (5) the evaluation of a weight shifting approach for preventing pressure ulcers, and (6) the development of preliminary computational models of inflammation and healing for evaluating bladder function and musculoskeletal injury status. The research team and collaborators include the Department of Rehabilitation Science and Technology, the Department of Physical Medicine and Rehabilitation, the McGowan Institute for Regenerative Medicine, and the Department of Occupational Therapy at the University of Pittsburgh plus Case Western Reserve University, Northwestern University, Baylor College of Medicine, IBM, and Immunetrics. The technology transfer program targets private and public sectors. The training and knowledge translation plan is equally broad based, targeting graduate and undergraduate students, practicing clinicians, researchers, and individuals with SCI and their caregivers.

Rehabilitation Engineering Research Centers (RERCs)  
Pennsylvania

## Rehabilitation Engineering Research Center on Accessible Public Transportation

---

Carnegie Mellon University  
Robotics Institute  
5000 Forbes Avenue  
Pittsburgh, PA 15213  
[www.ercapt.org](http://www.ercapt.org)

**Principal Investigator:** Aaron Steinfeld, PhD; Edward Steinfeld, ArchD  
**Public Contact:** 412/268-6346; Fax: 412/268-6436

**Project Number:** H133E080019

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 08 \$948,199; FY 09 \$947,430

**Abstract:** The goal of this project is to establish an effective and sustainable process to address the high priority transportation needs of people with disabilities using enabling technology and universal design. The RERC activities respond to the character of public transportation and its societal context, including its significant role in employment and social participation. The approach focuses on transportation as a travel chain where problems in early links can block access to a whole system. The project mix also leverages emerging information technologies and addresses the need for consumer-driven solutions that can be rapidly implemented and adapted to a wide range of transportation systems. Research and development activities include: (1) evaluate accessible and affordable tools for empowering consumers and service providers to collect and utilize research data, an example of “citizen science”; (2) provide an evidence base for boarding and disembarking policies, practices, and products with an in-depth examination of critical issues in vehicle ramp and interior design; (3) create a public website where riders can report on their experiences using a transportation system and software that can assist them in reaching their destination; and (4) produce guidelines, reference designs, and a demonstration bus with new vehicle interior concepts that are ready for commercialization. RERC activities also include active training and dissemination of evidence-based guidelines to stakeholders, publications, a conference, and capacity building for future research.

Rehabilitation Engineering Research Centers (RERCs)  
Pennsylvania

**Rehabilitation Engineering Research Center on Telerehabilitation**

---

University of Pittsburgh  
School of Health and Rehabilitation Sciences  
Rehabilitation Science and Technology  
2310 Jane Street, Suite 1300  
Pittsburgh, PA 15203  
dkeelan@pitt.edu  
www.rerctr.pitt.edu

**Principal Investigator:** David M. Brienza, PhD; Michael McCue, PhD; 412/586-6907 (Brienza);  
412/383-6589 (McCue)

**Public Contact:** Debby Keelan 412/586-6905; Fax: 412/586-6910

**Project Number:** H133E090002

**Start Date:** October 01, 2009

**Length:** 60 months

**NIDRR Officer:** Margaret Campbell, PhD

**NIDRR Funding:** FY 09 \$949,997

**Abstract:** This project conducts research and develops methods, systems, and technologies to support consultative, preventative, diagnostic, and therapeutic interventions to improve and promote telerehabilitation (TR) for individuals who have limited access to comprehensive medical and rehabilitation outpatient services. This project's research and development activities address cognitive and vocational rehabilitation, communication technology assessment and training, TR infrastructure, and prevention and management of secondary conditions. Specific project goals include: (1) developing a scalable informatics infrastructure, (2) developing and evaluating a neuropsychological assessment protocol, (3) investigating a program of applied cognitive rehabilitation, (4) investigating the use of remote job coaching, (5) developing and evaluating a TR enhanced wellness program in spina bifida, (6) investigating the use of TR to manage chronic edema and lymphedema in individuals with mobility disabilities, (7) developing and evaluating tools for augmentative and alternative communication and computer access service delivery, and (8) TR capacity building via selected technology implementation projects and the development of a uniform dataset for TR.

## Rehabilitation Engineering Research Centers (RERCs)

Wisconsin

### Rehabilitation Engineering Research Center on Telecommunication Access

---

University of Wisconsin/Madison  
Trace Research and Development Center  
2107 Engineering Centers Building; 1550 Engineering Drive  
Madison, WI 53706  
info@trace.wisc.edu  
trace.wisc.edu/telrerc

**Principal Investigator:** Gregg C. Vanderheiden, PhD (Trace); Judy Harkins, PhD (Gallaudet University) 608/263-5788 (Trace); 202/561-5257 (Gallaudet)

**Public Contact:** Kate Vanderheiden 608/265-4621 (V); 608/263-5408 (TTY); Fax: 608/262-8848

**Project Number:** H133E040013

**Start Date:** October 01, 2004

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 04 \$850,000; FY 05 \$924,988; FY 06 \$850,000; FY 07 \$850,000; FY 08 \$850,000; FY 09 (No-cost extension through 9/30/2010)

**Abstract:** The primary mission of the Telecommunications Access RERC is to advance accessibility and usability in existing and emerging telecommunications products for people with all types of disabilities. Telecommunications accessibility is addressed along all three of its major dimensions: user interface, transmission (including digitization, compression, etc.), and modality translation services (relay services, gateways, etc.). The RERC looks at advances that have both short- and long-term outcomes related to assistive technologies (AT), interoperability, and universal design of telecommunications. The RERC encompasses research and development programs, as well as training, technical assistance, and dissemination activities. A large part of the RERC's research and development program is directly related to the rapidly emerging Voice over IP (VoIP) technologies and other IP-based systems. The goal is to help ensure that these new technologies are accessible and usable by people with hearing impairments, blindness, and other disabilities. The research and development program of this RERC covers three areas: (1) Development of tools, techniques, and performance-based measures that can be used to evaluate current and evolving telecommunication technologies. (2) Solving the problems faced by individuals using hearing aids or cochlear implants with digital phones. (3) Improving access to emerging telecommunications - particularly digital and IP based systems. Projects in this area: (a) Identify techniques to alert people about possible emergencies and to ensure accessible communication in emergency or crisis situations; (b) seek solutions for the current incompatibility issues around text communications and ways to build the necessary capabilities into mainstream technologies, to allow them to evolve to new text, speech, and visual communication technologies; and (c) develop guidelines and reference materials to help mainstream telecommunications manufacturers build their regular products in a way that allows individuals with visual, hearing, physical, and cognitive disabilities to be able to use them. The goals of the RERC's training, technical assistance, and dissemination

activities are: To increase the number and level of expertise of people working to make standard telecommunication systems and products accessible and usable for people who have disabilities or who are aging; to move ideas and concepts out into the field in the form of standards or commercial products; and to provide useful information from our research to the telecommunications industry, consumers, and policymakers.

## Rehabilitation Engineering Research Centers (RERCs)

Wisconsin

### Rehabilitation Engineering Research Center for Universal Interface and Information Technology Access

---

University of Wisconsin/Madison  
Trace Research and Development Center  
1550 Engineering Drive, Room 2107 ECB  
Madison, WI 53706-1609  
info@trace.wisc.edu  
trace.wisc.edu/itrerc

**Principal Investigator:** Gregg C. Vanderheiden, PhD 608/263-5788

**Public Contact:** Kate Vanderheiden 608/265-4621 (V); 608/263-5408 (TTY); Fax: 608/262-8848

**Project Number:** H133E080022

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 08 \$950,000; FY 09 \$950,000

**Abstract:** This project focuses on the accessibility of information technologies and electronic products, including the technologies and products encountered in education, work, travel, and in the home and community, both online and in life, for persons across disabilities types and socio-economic levels. This project's four goals focus on the following: (1) the development of models and measures that can lead to better policy and more useful information for designers interested in creating products that are accessible and useable across disabilities; (2) creating a collaborative effort to build accessibility directly into the Internet and address underlying issues in the area of assistive technology; (3) advancing research on and the use of personal pluggable user interfaces focusing on their effectiveness in providing access to different types of mainstream technology (Project R2) and facilitating the incorporation of interface sockets in mainstream products (Project D2); and (4) continuing to advance commercial practice around accessibility; that is, taking concepts that have proven to be effective and making commercially available products which address the needs of people with disabilities. Each of these four goals seeks to foster change in rehabilitation or commercial practice, so that people with all levels of disability and all levels of socio-economic standing have effective access to both current technology and the rapidly evolving next-generation technologies. Finally, this project focuses on capacity building in the field through training and mentoring activities in affiliation with the Biomedical Engineering and Industrial & Systems Engineering departments at the University of Wisconsin-Madison in addition to other key stakeholders engaged in making information technology more accessible for people with disabilities.

## Rehabilitation Engineering Research Centers (RERCs)

Wisconsin

### Rehabilitation Engineering Research Center on Telecommunications Access

---

University of Wisconsin/Madison  
Trace Research and Development Center  
2107 Engineering Centers Building  
1550 Engineering Drive  
Madison, WI 53706  
info@trace.wisc.edu  
trace.wisc.edu/telrerc

**Principal Investigator:** Gregg C. Vanderheiden, PhD (Trace); Judy Harkins, PhD (Gallaudet University) 608/263-5788 (Trace); 202/561-5257 (Gallaudet)

**Public Contact:** Kate Vanderheiden 608/265-4621 (V); 608/263-5408 (TTY); Fax: 608/262-8848

**Project Number:** H133E090001

**Start Date:** October 01, 2009

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 09 \$950,000

**Abstract:** This project lays the foundation for access in next generation technologies and creates bridge technologies, allowing users to migrate to new communication technologies without losing access to emergency services or the ability to communicate with colleagues and family who are still on older telecommunication networks. Extending across disabilities and technology platforms, research and development activities focus on three specific issues: (1) telecommunication access in emergency situations, (2) interoperability and transition between current and next generation telecommunication access, and (3) access to telecollaboration for employment and participation. Project R1 focuses on identifying and quantifying the problems faced by people with hearing loss in using new IP telecommunications products and networks. The project includes both a user input-gathering activity and a study to quantify the impact of IP transmission on hearing loss. Projects R2 and D1 focus on telecollaboration and include a series of 14 sessions with consumer groups, software developers, and corporate users to identify barriers and potential strategies for increasing access to telecollaboration systems. Project D2 addresses the transition between legacy and next-generation text communication technologies. The project has two components: develop and prototype an affordable interim solution to reconnect deaf users of mobile technology who lost access to 9-1-1; and prototype a bridge technology for maintaining interoperability between old and new text communication technologies during the decade of transition to the next-generation (interoperable) text and total conversation (text, voice, and video) technologies. Project D3 provides research, prototypes, consultation, tools, and open source implementations, and other support to consumers, researchers, and industry in order to help move solutions that are already known and proven out of research labs and into commercial products, industry standards, professional practice, and ultimately users' hands.

**Disability and Rehabilitation Research Projects**  
California

---

**Fundamental Issues in Wayfinding Technologies**

---

The Smith-Kettlewell Eye Research Institute  
2318 Fillmore Street  
San Francisco, CA 94115  
rerc@ski.org  
[www.ski.org/Rehab/JABraby\\_n\\_lab/General/wayfinding.html](http://www.ski.org/Rehab/JABraby_n_lab/General/wayfinding.html)

**Principal Investigator:** John A. Brabyn, PhD 415/345-2110

**Public Contact:** Deborah Gilden, PhD 415/345-2000; Fax: 415/345-8455

**Project Number:** H133A060056

**Start Date:** November 01, 2006

**Length:** 36 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 06 \$449,872; FY 07 \$449,954; FY 08 \$449,952; FY 09 No-cost extension through 04/30/2010

**Abstract:** This project conducts a broad spectrum of research to strengthen the foundations of wayfinding technology for assisting blind and visually impaired individuals to travel safely and independently. Rather than developing additional devices, this project addresses fundamental questions in wayfinding technology research: What information do blind and visually impaired travelers really want and need for safe independent travel? Why is there such an extreme range in navigational facility within the visually impaired population? What are the upper limits of the information that can be gained from traditional orientation and mobility training and environmental cues? How are the subtle auditory cues affected in subpopulations with different types of hearing loss? How should wayfinding performance, and barriers to it, be quantified so that future progress can be measured? What is the role of advance travel planning? By pursuing answers to these fundamental questions rather than adding more technology-driven devices to the existing selection, this research improves understanding about the efficacy and optimal applications of navigation and travel technologies and techniques. This provides a research-based foundation to inform and improve: (1) orientation and mobility instructional strategies; (2) the design of new wayfinding technologies; and (3) future research.

**Disability and Rehabilitation Research Projects**  
California

## **Technology Access in Resource-Limited Environments**

---

San Francisco State University  
1600 Holloway Avenue, SCI 251  
San Francisco, CA 94132-4163  
reisinger@whirlwindwheelchair.org

**Principal Investigator:** Kim Reisinger, PhD 415/338-6277

**Public Contact:** 415/338-6277; 708/672-6097; Fax: 415/338-1290; 708/672-6097

**Project Number:** H133A090020

**Start Date:** October 01, 2009

**Length:** 60 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 09 \$950,000

**Abstract:** This project explores the factors affecting awareness of, access to, and acquisition of high-quality, low-cost assistive technology (AT) in resource-limited environments (RLEs) within developing countries and US Tribal Lands. A systematic approach is taken to investigate the following three questions: (1) what factors influence AT provision; (2) why some models of AT provision are successful and under what conditions, as collectively perceived by manufacturers, distributors, service providers, and AT users and their families or caregivers; and (3) how stakeholders can create successful AT provision programs. The project uses a comprehensive review of the current methods of AT provision in literature, focus groups, and semi-structured interviews to develop surveys which are then administered to AT manufacturers/distributors, service providers, and individuals with disabilities (IWD) in five developing countries and US Tribal Lands. The survey data identify the influent factors in successful AT provision programs and effective communication methods to reach IWD in RLEs. The Assistive Technology Access System Development Guide, an evidence-based tool, is developed and used to improve existing AT provisions or provide solutions for new programs for three contextually different RLEs case studies. Project research provides the field of AT provision in developing countries and US Tribal Lands with the quantitative research and tools to steer future action; and the evaluation mechanisms to drive change on every level from the individual up to global policy makers.

## Disability and Rehabilitation Research Projects

North Carolina

### **Consortium for Assistive Technology Outcomes Research (CATOR) II**

---

Duke University  
Division of Speech Pathology and Audiology  
DUMC 3888  
Durham, NC 27710  
frank.deruyter@duke.edu  
www.AToutcomes.com

**Principal Investigator:** Frank DeRuyter, PhD

**Public Contact:** Jessica House 919/681-9983 (V); 919/684-6626 (TTY); Fax: 919/681-9984

**Project Number:** H133A060062

**Start Date:** January 01, 2007

**Length:** 36 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 06 \$449,994; FY 07 \$449,995; FY 08 \$449,995

**Abstract:** The Consortium for Assistive Technology Outcomes Research (CATOR-II), in collaboration with the RRTC on Measuring Rehabilitation Outcomes and Effectiveness and several other NIDRR-funded programs, enhances understanding of the impact of AT on the lives of people with disabilities by conducting a research project that systematically applies state-of-the-science measures of AT interventions, outcomes, and data collections mechanisms. The purpose of this project is to improve the AT field's ability to measure the impact of AT on the lives of people with mobility disabilities, with the potential to supplement or supplant the instruments and techniques available to researchers, service providers, and policy makers. Project R-1 produces a state-of-the-science instrument for measuring outcomes for mobility AT devices based on applications of item response theory and computer adaptive testing. Project R-2 produces a state-of-the-science instrument for specifying and measuring key aspects of mobility AT treatment interventions, along with two consensually endorsed classifications of mobility devices and services. Together, these products provide a foundation to improve reporting of interventions in research publications and assess treatment fidelity in AT outcome studies. Drawing on the advanced measures emanating from projects R-1 and R-2, Project R-3 uses an experimentally controlled design to examine the conditions under which a change in assistance strategy, induced by a mobility AT intervention, enhances the functional performance, well-being, and device satisfaction of stroke survivors and decreases the assistance being received from cohabitating caregivers.

**Disability and Rehabilitation Research Projects**  
Pennsylvania

**Information Technology for Independence:  
Community-Based Research**

---

University of Pittsburgh  
6026 Forbes Tower  
Pittsburgh, PA 15260  
parmanto@pitt.edu  
www.pitt.edu/~curbcut

**Principal Investigator:** Bambang Parmanto, PhD  
**Public Contact:** 412/383-6649; Fax: 412/383-6655

**Project Number:** H133A021916

**Start Date:** January 01, 2003

**Length:** 60 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 02 \$299,945; FY 03 \$299,534; FY 04 \$299,945; FY 05 \$299,384; FY 06 \$298,903; FY 07 (No-cost extension through 12/31/2008); FY 08 (No-cost extension through 12/31/2009)

**Abstract:** This project explores methods and technologies to mitigate barriers to computer and Internet use encountered by people with visual impairments. These barriers include limited computer ownership and Internet availability, difficulty in obtaining and using accommodations for functional limitations (including cost issues), psychological barriers arising from inadequate coaching or mentoring, and the limited accessibility of most websites to individuals with visual impairments. Accessibility can be promoted through computer ownership, Internet availability, assistive technologies, and knowledgeably-staffed public computer stations, such as at independent living centers. Evaluation of these barriers and of identified accommodation strategies is the first research task of this project. Preceded by focus groups and a widely-disseminated survey, the match of correct assistive device(s) to the individual and appropriate coaching and mentoring is tested at community-based computer laboratories. The second research task is to develop and evaluate a new approach to Internet accessibility — a Gateway server. This Gateway transforms the contents of any website, whatever its level of accessibility, into the most accessible format for each Internet user, as Google does for personal digital assistant (PDA) users. The Gateway promotes Internet accessibility without requiring that commercial websites follow promulgated guidelines or standards for users with disabilities, something that web developers often seem to resist. Additionally, this project develops innovative metrics that enable the most rigorous approach to the analysis of Internet accessibility and is conducting large-scale studies of different topical categories of websites to measure progress in accessibility over time and identify the impact(s) of new technologies.

## Field Initiated Projects (FIPs)

California

### A Robotic Powered Wheelchair Trainer with Haptic Guidance as Needed

---

University of California  
Mechanical and Aerospace Engineering  
4200 Engineering Gateway  
Irvine, CA 92697-3975  
dreinken@uci.edu

**Principal Investigator:** David J. Reinkensmeyer, PhD

**Public Contact:** 949/824-5218; Fax: 949/824-8585

**Project Number:** H133G090111

**Start Date:** October 01, 2009

**Length:** 24 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 09 \$100,598

**Abstract:** This project develops a robotic powered wheelchair (WC) system on which individuals with severe disabilities can safely learn and develop driving skills at their own pace with minimum assistance from a therapist. A powered WC is equipped with a webcam (simple video camera) to achieve a self-steering function along a training course, and a force-feedback joystick to implement an algorithm that can demonstrate (through intuitive movement and force of the joystick itself) exemplary control to follow the course, while systematically modulating the strength and sensitivity of such haptic demonstration. This method gradually exposes the individual to the dynamics of a normal powered WC, in an analogous fashion to bicycle training wheels. The idea is to let the individual learn from the experience of making errors repeatedly and safely in a structured environment, while reducing demands on the supervising therapist.

## Field Initiated Projects (FIPs)

Delaware

### Multimodal Access to Information Graphics

---

University of Delaware  
Electrical and Computer Engineering Department  
140 Evans Hall  
Newark, DE 19716  
barner@ee.udel.edu  
www.ece.udel.edu/~barner

**Principal Investigator:** Kenneth Barner, PhD

**Public Contact:** 302/831-6937; Fax: 302/831-4316

**Project Number:** H133G080047

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Joseph A. DePhillips

**NIDRR Funding:** FY 08 \$199,975; FY 09 \$199,796

**Abstract:** This project addresses the accessibility of a specific class of graphics, referred to as information graphics, that consist of bar charts, pie charts, line graphs, etc. Although information graphics comprise only a subset of graphics-based information, they are prevalent in information resources and constitute a set of sufficiently similarly characterized graphics to enable automated processing. To address the accessibility of this class of graphics, this project develops a system for automatically generating multimodal representations of information graphics. The multimodal representations consist of automatically generated tactile graphics and automatically generated textual summaries designed to convey the intended core message of the graphic. This development is based on the latest research in the image processing, computer vision, statistical inference, natural language understanding, processing, and generation, as well as universal design and human computer interaction. The multimodal information graphic system (MIGS) is developed to work directly with existing tactile printers and Braille/synthesized speech output methods; and provides users with visual impairments, as well as others benefiting from multimodal displays, greater independent access to the proliferating body of information graphics. This project determines the optimal tactile graphic design methods and optimal text-base summarization approach based on preferences of potential users of the MIGS system, and evaluates MIGS component effectiveness in providing access to graphical information.

## Field Initiated Projects (FIPs)

District of Columbia

### Accessible Digital Radio Broadcast Services

---

National Public Radio  
NPR Labs  
635 Massachusetts Avenue NW  
Washington, DC 20001-3753  
mstarling@npr.org  
www.nprlabs.org

**Principal Investigator:** Mike Starling

**Public Contact:** 202/513-2484; Fax: 202/513-3024

**Project Number:** H133G060187

**Start Date:** October 01, 2006

**Length:** 36 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 06 \$150,000; FY 07 \$150,000; FY 08 \$150,000; FY 09 (No-cost extension through 1/31/2010)

**Other Funding:** FY 07 \$25,000 Harris Corporation; FY 08 \$25,000 Harris Corporation

**Abstract:** In this project, National Public Radio (NPR) and its partners prototype, field test, and assess the most appropriate technologies, service models, and operational techniques in the accessible design of mass-market digital radio services to better serve consumers with sensory disabilities. This work produces best practice demonstrations and service options with strong prospects for mass-market adoption within digital radio services and receivers, options that model how digital radio can provide: mainstreamed digital reading radio services; live video description synchronized to broadcast; buffering for rewind/replay/catch-up to aid comprehensibility; accessible controls, displays, and menu options on digital radio receivers; and caption displays of audio on digital radio receivers or ancillary displays. Best practice demonstrations and service options benefit from iterative and comprehensive user evaluations led by research experts. Furthermore, NPR and its partners have extensive collaborative relationships within the industry that ensure widespread impact on products and services available to people with sensory disabilities.

## Field Initiated Projects (FIPs)

District of Columbia

### An Automatic Fitting Algorithm for Cochlear Implant

---

Gallaudet University  
Department of Hearing, Speech, and Language Sciences  
800 Florida Avenue, NE  
Washington, DC 20002  
matthew.bakke@gallaudet.edu  
www.hearingresearch.org

**Principal Investigator:** Matthew H. Bakke, PhD

**Public Contact:** 202/651-5335 (V/TTY); Fax: 202/651-5324

**Project Number:** H133G060065

**Start Date:** October 01, 2006

**Length:** 36 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 06 \$146,562; FY 07 \$149,533; FY 08 \$149,895; FY 09 (No-cost extension through 9/30/2010)

**Abstract:** The purpose of this study is to design and evaluate an automatic cochlear implant fitting algorithm based on a paired comparison adaptive approach to guide audiologists in choosing the best frequency allocation for the individual client. Frequency allocation can impact speech recognition abilities and in turn communication. This work entails a systematic search for an optimum frequency allocation using a modified Simplex procedure. This study consists of three experiments. One is the discrimination of frequency analysis band wherein minimally detectable differences in frequency shifts along the electrode array are identified. In the second experiment, subjects are computer-guided to search for an optimal frequency allocation among cells in a matrix, with the results from experiment one defining the cell content. The third experiment, the speech battery test, consists of speech perception experiments with the new map using nonsense syllable, phoneme, and sentence stimuli. Experiment 2 and experiment 3 are recursively conducted until the results converge with up to six sessions per subject required to finish the experiment. During the subject's first and last visits, he/she completes the Communication Profile for the Hearing Impaired (CPHI) and a questionnaire similar to the Abbreviated Profile of Hearing Aid Benefit (APHAB). Four normal hearing native English speakers evaluate the experimental procedure and the speech processing algorithm. Fifteen post-linguistically deafened Nucleus 24 cochlear implant users complete the study.

## Field Initiated Projects (FIPs)

District of Columbia

### Personal Audio Information Service

---

National Public Radio  
NPR Labs  
635 Massachusetts Avenue NW  
Washington, DC 20001-3753  
mstarling@npr.org  
www.nprlabs.org

**Principal Investigator:** Mike Starling; Ellyn Sheffield, PhD

**Public Contact:** 202/513-2484; Fax: 202/513-3024

**Project Number:** H133G070093

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Joseph A. DePhillips

**NIDRR Funding:** FY 07 \$200,000; FY 08 \$200,000; FY 09 \$200,000

**Abstract:** This project defines and demonstrates a Personal Audio Information Service (PAIS) - a new mainstream system that expands the lifeline services currently offered to people with visual impairments through audio information services (AIS) by automatically assembling a selection of locally relevant, customized audio content from current AIS broadcasts. The PAIS system combines the established framework of audio information services with the new programming flexibility that is afforded by HD Radio (the new FCC standard for digital radio broadcasting), creating a powerful on-demand radio system that will substantially improve media access for millions of American consumers with print disabilities. The project: (1) develops efficient audio interfaces for selecting, navigating, and listening to content; (2) develops effective systems for tagging, subdividing, and collecting topic-based content; (3) develops and demonstrates a full-scale PAIS system in a real world broadcast pilot; and (4) documents and publishes recommended best operating practices for audio information service providers and consumer electronics manufacturers to fully deploy PAIS technologies.

## Field Initiated Projects (FIPs)

District of Columbia

# The Captioned Braille Radio Initiative: Providing Emergency Information for Individuals who are Deaf-Blind

---

National Public Radio  
NPR Labs  
635 Massachusetts Avenue NW  
Washington, DC 20001-3753  
mstarling@npr.org  
www.nprlabs.org

**Principal Investigator:** Mike Starling

**Public Contact:** 202/513-2484; Fax: 202/513-3024

**Project Number:** H133G090139

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Joseph A. DePhillips

**NIDRR Funding:** FY 09 \$200,000

**Abstract:** This project focuses research activities on the standardization of a Captioned Braille Digital Radio service model designed to serve consumers who are deaf-blind. Individuals who are deaf-blind require technology that will allow them to obtain the same important information hearing consumers take for granted, such as emergency alerting, disaster relief information, weather, traffic reports, school closings, and breaking news. During emergencies, Americans rely on radio for crucial information to guide their decisions and behavior. The development of captioned radio for the deaf and hard-of-hearing is well under way. This project has already yielded a nationwide demonstration of a captioned radio system with off-the-shelf transmission equipment and reference receivers. Designing and implementing these Captioned Braille Digital Radio standards concurrently along with those of Captioned Radio creates a single unified accessibility standard that can be supported by all digital radio broadcasters and receiver manufacturers for both Type I and Type II Braille, including buffering for store and replay. The envisioned Captioned Braille Digital Radio service is designed to work with USB and Bluetooth connections to the consumer's existing electronic brailers. Service design tests and implements an effective menu structure, and provides porting support for bed-shakers and other assistive devices for activation during overnight emergencies generating immediate evacuation or shelter in place instructions, such as wildfires or tornados.

## Field Initiated Projects (FIPs)

Georgia

# Workplace Accommodation Wizard: An Assessment and Accommodation Tool for Employers

---

Georgia Institute of Technology  
Center for Assistive Technology and Environmental Access (CATEA)  
490 Tenth Street, NW  
Atlanta, GA 30318  
workrerc@coa.gatech.edu  
www.workrerc.org

**Principal Investigator:** Karen Milchus 404/894-0393

**Public Contact:** 800/726-9119 404/894-1414; Fax: 404/894-9320

**Project Number:** H133G070063

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 07 \$196,460; FY 08 \$199,801; FY 09 \$195,616

**Abstract:** The purpose of this project is to develop the Workplace Accommodation Wizard that enables human resource personnel to identify employees' needs and solutions for workplace accommodations. The Wizard includes both an employer-driven assessment tool and a rule-based system for using the assessment information to identify specific accommodations from assistivetech.net, the national public internet site on Assistive Technology (AT), which contains information on over 18,000 AT products. Development of the Workplace Assessment Wizard includes: (1) creation of the assessment protocol; (2) evaluation and revision of the protocol; (3) development of the rule set; (4) development of the web application; and (5) product testing and revision of content, usability, and accessibility. This workplace-specific assessment tool combined with a comprehensive database of AT enables human resource personnel in a variety of employment sectors to conduct a workplace assessment, find potential accommodations, read reviews of those accommodations, and find links to specific products.

## Field Initiated Projects (FIPs)

Illinois

### Web-Based Treatment for Aphasia

---

Rehabilitation Institute Research Corporation  
Center for Aphasia Research  
345 East Superior Street, Room 1353A  
Chicago, IL 60611  
lcherney@ric.org

**Principal Investigator:** Leora R. Cherney, PhD

**Public Contact:** 312/238-1117; Fax: 312/238-2208

**Project Number:** H133G060055

**Start Date:** December 01, 2006

**Length:** 36 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 06 \$146,316; FY 07 \$145,529; FY 08 \$149,932; FY 09 (No-cost extension through 10/31/2010)

**Abstract:** This project conducts a randomized clinical trial to develop and implement an innovative, broadband, web-based treatment program for individuals with chronic aphasia, and evaluates its efficacy and cost-effectiveness. The treatment, Oral Reading for Language in Aphasia (ORLA), is based on a theoretical framework that incorporates two lines of work: the neuropsychological models of reading and observation-execution-matching. The treatment has been computerized and the current version of ORLA uses state-of-the-art virtual therapist technology that allows the individual with aphasia to read aloud, and ultimately speak, sentences at the same time as the words are produced by a perceptive, life-like, animated computer agent, using visible speech. In this clinical trial, ORLA treatment is delivered via the Internet and outcomes are compared to a placebo computer treatment. Twenty-five individuals with chronic aphasia (at least 12 months post onset) are randomized to one of two groups: oral reading treatment group and a control group in which subjects participate in non-language computer activities. Both groups practice for nine hours per week and treatment continues for a six-week period of time. Language and communication skills are evaluated pretreatment, immediately post-treatment, and at six weeks after the end of treatment to assess maintenance effects. The primary outcome measure is the Aphasia Quotient of the Western Aphasia Battery. Additionally, secondary outcome measures have been selected with consideration of the ICFDH-2 categories of body structure/function, activity, and participation, and include a variety of standard aphasia tests as well as quality of life indices.

## Field Initiated Projects (FIPs)

Illinois

# Overcoming Gravity Induced Arm and Hand Dysfunction to Restore Functional Reaching Following Stroke

---

Northwestern University  
Department of Physical Therapy and Human Movement Sciences  
645 North Michigan Avenue, Suite 1100  
Chicago, IL 60611  
j-dewald@northwestern.edu  
dewaldlab.com/

**Principal Investigator:** Julius Dewald, PT, PhD 312/908-6788

**Public Contact:** 312/908-6788; Fax: 312/908-0741

**Project Number:** H133G070089

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 07 \$195,867; FY 08 \$194,252; FY 09 \$196,457

**Abstract:** This study uses a 3-D force-controlled robot to test whether electrical stimulation of extensor muscles can overcome the associated abnormal flexor activity of the elbow, wrist, and fingers during reaching under progressively larger gravitational loads. Furthermore, if indeed wrist and finger flexors can be overpowered, this study determines if a multi-electrode array can be implemented to selectively stimulate wrist extensors independently of finger extensors during the same reaching conditions. Selective stimulation, if successful, would increase the functional repertoire of the hand and enhance the quality of life of stroke survivors. To support the fundamental premise that abnormal flexor activity exists in individuals with stroke, the project measures the progressive increase in abnormal wrist and finger flexion associated with supporting increasing amounts of the upper limb's weight. This is accomplished by using a 3-D force-controlled robot to virtually manipulate the amount of gravity experienced during reaching in 45 chronic stroke survivors (aim 1). Next, the project quantifies the impact of electrical stimulation of the elbow, wrist, and finger extensors on elbow, wrist, and finger extension range of motion when progressively increasing the weight of the paretic limb with the robot during reaching (aim 2). Finally, the project investigates the application of an existing multi-electrode stimulation array to determine if wrist and finger extensors can be selectively stimulated (aim 3).

## Field Initiated Projects (FIPs)

Illinois

# Video Gaming Technology to Promote Health and Fitness Among Adolescents with Disabilities

---

University of Illinois at Chicago  
Institute on Disability and Human Development  
1640 West Roosevelt Road, Suite 713  
Chicago, IL 60608

**Principal Investigator:** Jennifer Rowland

**Public Contact:** 312/413-1850

**Project Number:** H133G080120

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 08 \$183,463; FY 09 \$168,672

**Abstract:** This project adapts active video games for use by youth with physical disabilities, and assesses their feasibility and effectiveness as an exercise modality for increasing energy expenditure and improving cardiorespiratory fitness. The study is conducted in three phases: Phase I: Adaptation and Feasibility Testing; Phase II: Dose- Response Energy Expenditure; and Phase III: Cardiorespiratory Fitness Trial. In Phase I, adaptations are implemented that allow youth with disabilities to play active video games using upper extremity movement to participate in the games. The accessibility and safety of these adaptations is assessed through pilot testing, and, if necessary, modifications to the adapted video games are made based on participant feedback and observation. Researchers collect exercise intensity data associated with various games designed for both EyeToy™ (ET) and Dance, Dance Revolution(TM) (DDR) devices. These data are used to classify specific games into mild, moderate, and vigorous activity. Phase II examines the dose-response relationship between energy expenditure and exercise intensity for both active video games and a standard exercise modality for individuals with disabilities (arm cycling). Participants complete energy expenditure assessments for three levels of intensity (mild, moderate, and vigorous) for each exercise modality (arm cycling, DDR, and ET). Phase III is a randomized controlled trial examining the effects of active video games compared to arm cycling and normal activity controls in improving cardiorespiratory fitness in adolescent manual wheelchair users. Participants in both intervention groups will take part in a 10-week, 3 days/week exercise training program designed to increase aerobic capacity. Primary outcome measures include cardiorespiratory fitness, energy expenditure, and satisfaction with physical activity.

## Field Initiated Projects (FIPs)

Kansas

# Experimental Evaluation of the Online and Applied System for Intervention Skills (OASIS) Training Program Using Video-Conferencing for Parents of Children with an Autism Spectrum Disorder

---

University of Kansas  
Center for Child Health and Development  
3901 Rainbow Boulevard., MSN 4003  
Kansas City, KS 66160  
lhpowell@ku.edu  
www.jgcp.ku.edu/

**Principal Investigator:** Linda S. Heitzman-Powell, PhD

**Public Contact:** 913/588-5588; Fax: 913/588-5916

**Project Number:** H133G090136

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 09 \$199,910

**Abstract:** This project evaluates the Online and Applied System for Intervention Skills (OASIS) Training Program, a program that uses a Research-to-Practice Outreach Training model to teach parents of children with an autism spectrum disorder (ASD) how to implement empirically-based interventions with their children. The evaluation of the OASIS program includes two studies. The purpose of Study 1 is to: (1) conduct a between-group experimental analysis of the effectiveness of the final iteration of the OASIS training program developed during a previously funded development project, and (2) conduct a within subject analysis of the effects of OASIS on parent knowledge and skill fluency with implementation of behavioral techniques with their child, family quality of life, and child language and social engagement post treatment and during follow-up measures. The purpose of Study 2 is to assess the long-term impact of the OASIS program on parents and children who previously completed training. Study 2 continues collection of family outcome, intervention-specific, and child outcome data on families who have experienced the OASIS intervention as a part of the intervention development phase in order to obtain preliminary information about long term effects.

## Field Initiated Projects (FIPs)

Maryland

### Optimized Hands-Free Speech Recognition

---

UMBC

Information Systems Department

1000 Hilltop Circle

Baltimore, MD 21250

asears@umbc.edu

**Principal Investigator:** Andrew Sears, PhD

**Public Contact:** 410/455-3883; Fax: 410/455-1531

**Project Number:** H133G050354

**Start Date:** December 01, 2005

**Length:** 36 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 05 \$149,882; FY 06 \$149,997; FY 07 \$149,774; FY 08 (No-cost extension through 11/30/2009)

**Abstract:** The goal of this project is to take the collected hands-free speech recognition scientific knowledge and interface solutions, which have been individually developed and proven, and incorporate those into a commercially available user interface software product. The project follows an iterative user centered design process whose three main phases correspond roughly to the three years of the project. In phase 1, past research results are incorporated into a prototype design, which undergoes usability testing in the lab. In phase 2, an "alpha" version of the product is placed in a small number of users' homes and/or offices, where they use the prototype for up to six months and keep a diary of their experiences. In phase 3, a "beta" version of the software is tested by a larger number of users over a period of six months. In this trial the users are subject to surveys regarding ease-of-use, and they and the developers participate in an open online discussion/feedback forum for users. The end of phase 3 includes a final refinement of the product and evaluations of the performance of the new software product, and (for marketing purposes) a comparison of performance of the hands-free implementations of speech recognition software commercially available at that time. This project culminates with "Version 1.0" which will be made available to the general public.

## Field Initiated Projects (FIPs)

Massachusetts

# Captioning Solutions for Handheld Media and Mobile Devices Development

---

WGBH Educational Foundation  
National Center for Accessible Media  
One Guest Street  
Boston, MA 02135  
access@wgbh.org  
www.wgbh.org/ncam

**Principal Investigator:** Geoff Freed

**Public Contact:** Mary Watkins 617/300-3700; Fax: 617/300-1020

**Project Number:** H133G070122

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 07 \$200,000; FY 08 \$200,000; FY 09 \$200,000

**Abstract:** This project explores barriers to portable media for deaf and hard-of-hearing users and develops captioning solutions that serve as models for the mobile media and technology industries and for public policy developers. The project team identifies, tests, and prototypes required accessibility changes in mobile media production tools, formats, transport mechanisms, and display technologies. Prototypes model technical solutions for packaging, compression, identification, retrieval, download, processing, and porting of captioned video to portable devices. Prototypes also model mobile caption display options and explore customization capabilities. Consumers who are deaf or hard-of-hearing participate in end-user testing to evaluate the usability of project solutions. Project deliverables include: (1) prototypes that model multiple methods of creating, distributing, downloading, and displaying captioned content on handheld devices; (2) publication of usability research on accessible interface and caption display options; and (3) comprehensive functional requirements that detail production processes and software and hardware enhancements required for content creators, service providers, and third party tool developers to create and transcode captions and caption feature sets and capabilities required for open as well as proprietary mobile media formats and device-specific players to render captions.

## Field Initiated Projects (FIPs)

Massachusetts

### Caption Accuracy Metrics Development Project

---

WGBH Educational Foundation

One Guest Street

Boston, MA 02135

[ncam@wgbh.org](mailto:ncam@wgbh.org)

[ncam.wgbh.org](http://ncam.wgbh.org)

**Principal Investigator:** Marcia Brooks

**Public Contact:** 617/300-3431; Fax: 617/300-1035

**Project Number:** H133G080093

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 08 \$200,000; FY 09 \$200,000

**Abstract:** This project utilizes language-processing tools to develop an automated caption accuracy assessment system for real-time captions for live news programming as well as classroom-based communication access real-time translation (CART) captioning. Additionally, this project researches whether text-based data mining and automatic speech recognition technologies can produce meaningful data about stenocaption accuracy that meets the need for caption performance metrics. Advisors include the National Institute of Standards and Technology, IBM, Nuance, the Massachusetts Institute of Technology, Gallaudet University, and the National Technical Institute for the Deaf. Prototypes are reviewed by major stakeholders at Technical Review Meetings. Iterative tests and modifications within major stenocaption and broadcast operations facilities provide real-world assessments of the system's ability to produce meaningful caption accuracy metrics. A reliable performance measurement tool that can analyze the quality of real-time captioning, developed with input from industry leaders, deaf education experts, and the Federal National Institute of Standards and Technology, provides Congress and the FCC with much-needed, independently verified data to establish caption accuracy requirements, and greatly improves the ability of the television community to monitor and maintain the quality of live captioning they offer to viewers who are deaf or hard of hearing.

## Field Initiated Projects (FIPs)

Massachusetts

### Minimal Classroom Requirements for Optimal Acoustic Access to Speech by Children with and Without Hearing Loss

---

Clarke School for the Deaf  
47 Round Hill Road  
Northampton, MA 01060-2199  
figlehart@clarkeschool.org

**Principal Investigator:** Frank Iglehart, PhD

**Public Contact:** 413/584-3450; Fax: 413/582-1187

**Project Number:** H133G060116

**Start Date:** December 01, 2006

**Length:** 36 months

**NIDRR Officer:** Joyce Y. Caldwell

**NIDRR Funding:** FY 06 \$68,869; FY 07 \$51,122; FY 08 \$56,282

**Abstract:** The purpose of this project is to measure the effects of classroom noise and reverberation on speech perception by children with varying degrees of hearing loss and of different ages. The effects of speech-to-noise ratio (0 dBA S/N, +10 dBA S/N, and +20 dBA S/N) and reverberation (RT = 0.25, 0.50 and 1.0s) on sentence-level speech perception are measured as functions of age (5-16 years) and degree of hearing loss (mild to profound). Normative data is also collected, as a function of age, on children with typical hearing. This project addresses several questions: (1) What limits on noise and reverberation are required for optimal speech perception by children with hearing loss? (2) Can the need for access to speech among children with different degrees of hearing loss be met with a single set of criteria for classroom acoustics? (3) To what extent do these criteria vary with age among children with typical hearing and those with hearing loss?

**Field Initiated Projects (FIPs)**  
Michigan

**Preparations for In-home Testing of Brain-Computer Interfaces  
Operating Assistive Technology**

---

University of Michigan  
MIB C640  
1500 East Medical Center Drive  
Ann Arbor, MI 48109-5841  
janeh@umich.edu  
www.umich.edu/~umdbi/

**Principal Investigator:** Jane Huggins, PhD  
**Public Contact:** 734/936-7170; Fax: 734/936-7515

**Project Number:** H133G090005  
**Start Date:** October 01, 2009  
**Length:** 36 months  
**NIDRR Officer:** A. Cate Miller, PhD  
**NIDRR Funding:** FY 09 \$199,999

**Abstract:** This project prepares for in-home testing of brain-computer interfaces (BCIs) among target user populations across the lifespan, including people with amyotrophic lateral sclerosis, muscular dystrophy, spinal cord injury, and cerebral palsy. BCIs have long been used in the laboratory, but although their capabilities have for several years seemed sufficient to be of benefit to people with the most severe physical impairments, they have not been available for purchase or in-home use. While the BCI field has been rapidly expanding in numbers of related publications, research has largely focused on signal processing advances, not on practical hurdles to home use of BCIs. Only in the last few years have BCIs been taken out of the laboratory for testing in home environments where they can have a real impact on independence and employment. However, the input of people with physical impairments has not been pursued in an organized fashion by BCI researchers. The specific aims of the project are: (1) develop improved BCI cursor movement capabilities for integration with computer-based assistive technologies; (2) demonstrate and quantify the ability of subjects from potential target user populations to functionally use BCIs; and (3) identify and quantify the design considerations that are of the highest priority to people with specific impairments.

## Field Initiated Projects (FIPs)

New Jersey

### Improved Weight Bearing Evaluation of Knee Osteoarthritis

---

Kessler Foundation  
Kessler Foundation Research Center  
1199 Pleasant Valley Way  
West Orange, NJ 07052  
pbarrance@kesslerfoundation.org

**Principal Investigator:** Peter Barrance, PhD

**Public Contact:** 973/324-3550; Fax: 973/243-6984

**Project Number:** H133G080136

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 08 \$199,964; FY 09 \$199,480

**Abstract:** The objective of this project is to develop refined upright MRI imaging and computer modeling methods that allow assessment of patients with osteoarthritis (OA) during weight bearing. To optimize available non-surgical OA treatments, refined imaging methods are needed to measure changes in knee positioning and cartilage contact while weight bearing. The project builds on pilot work that demonstrated the ability to derive quantitative measures of cartilage contact positioning from weight bearing MRI images. Three specific focus areas for development are: (1) to develop a more efficient and accurate method for positioning patients with symptomatic knee OA and determine the limits of duration for weight bearing MRI scanning; (2) to improve and expand methods for maintaining consistent measurement reference frames through changing positions and loading conditions; and (3) to expand capabilities needed to describe contact area and cartilage depth at the contact sites. Researchers validate the methodological developments using laboratory experiments and a study with OA patients when lateral wedge insoles are prescribed to relieve loading of the knee's medial compartment.

## Field Initiated Projects (FIPs)

North Carolina

### Micromachined Braille Reader

---

North Carolina State University  
2410 Campus Shore Drive, MRC 443  
Raleigh, NC 27695-7514

**Principal Investigator:** Paul D. Franzon

**Public Contact:** 919/515-7351; Fax: 919/515-2285

**Project Number:** H133G070135

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Joseph A. DePhillips

**NIDRR Funding:** FY 07 \$199,446; FY 08 \$199,083; FY 09 \$199,083

**Abstract:** This project develops a low-cost, portable Braille display utilizing Polyvinylidene Fluoride (PVDF), an electro-active polymer, to create a novel, low-power, low-voltage bistable actuator. The dots in this display are produced with more force and are easier to read. By using PVDF and silicon micromachining techniques, there is the potential for each Braille cell to cost \$5 or less, as compared to about \$35 for the current commercial offerings. This display should use less power, be cheaper to make, require a lower actuation voltage (thus reducing the size and cost of the control electronics), and be easier to scale to more letters than other current prototypes.

## Field Initiated Projects (FIPs)

North Carolina

# Universal Design of Tactile Exhibits with Touch Activated Descriptive Audio for Aquariums

---

RAF Models & Displays  
111 Cascade Avenue  
Winston-Salem, NC 27127  
rafmodels@triad.rr.com

**Principal Investigator:** Rebecca Fuller

**Public Contact:** 336/722-4250

**Project Number:** H133G060284

**Start Date:** October 01, 2006

**Length:** 36 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 06 \$138,740; FY 07 \$144,440; FY 08 \$143,060; FY 09 (No-cost extension through 9/30/2010)

**Abstract:** The purpose of this project is to develop strategies and technologies that enhance the learning opportunities at aquariums for people who are blind or low vision (B/LV). The project evaluates current aquarium exhibit strategies related to an interpretive program and assesses barriers for people who are B/LV that functionally limit their participation in the critical learning opportunities extended to the general public. The project identifies and develops universal design best practice strategies and methodologies that enhance social integration and access to exhibit and interpretive information for persons who are B/LV. The project develops cost effective technologies to couple a user-directed tactile experience with audio descriptive information for aquarium exhibits. The project emphasizes methodologies that emphasize user involvement by persons who are B/LV in the design and evaluation of prototypical designs for aquariums.

## Field Initiated Projects (FIPs)

Oregon

### Researching Accessibility Gaps in Transit Hub Communication Systems and Standards

---

Oregon State University  
312 Kerr Administrative Building  
Corvallis, OR 97331  
hunterz@engr.orst.edu  
ncat.oregonstate.edu/

**Principal Investigator:** Katharine Hunter-Zaworski, PhD

**Public Contact:** 541/737-4982; Fax: 541/737-3052

**Project Number:** H133G090242

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 09 \$199,584

**Abstract:** This project researches accessibility gaps within communication technologies used in transportation hubs and identifies opportunities for universal and accessible design considerations within industry communications standards. This research effort includes coordination with emergency alerting initiatives deployed or in development at the national, state, and municipal level, where communications interoperability challenges are a serious problem. Research documents the state of communications technologies and practices, both in use and in development, identifies the policies and workflows associated with information delivery, determines the transportation industry's awareness and use of international standards for accessible interoperable communications technologies, and produces a gap assessment. Research results identify areas needing further study and/or technical solutions and provide a framework for policy recommendations and consumer advocacy including: the status of passenger communications technologies, policies, and practices, and the awareness and adoption of accessibility standards and specifications within transit hubs; and gaps in communications technologies, information flows, and interoperable standards that need to be addressed to safeguard the safety of people with disabilities. This is a project of The National Center for Accessible Transportation (NCAT) at Oregon State University and the WGBH National Center for Accessible Media (NCAM).

**Field Initiated Projects (FIPs)**  
Oregon

**The TATE Project: Training Assistive Technology in the Environment**

Teaching Research Institute  
99 West 10th Avenue, Suite 370  
Eugene, OR 97361  
ehlhardt1@wou.edu

**Principal Investigator:** Laurie Ehlhardt, PhD

**Public Contact:** 541/346-0572

**Project Number:** H133G090227

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 09 \$200,000

**Abstract:** This project develops, tests, and disseminates a systematic instructional package called the Training Assistive Technology in the Environment (TATE) Systematic Instructional Package (SIP) for assistive technology for cognition (ATC). TATE SIP is developed and evaluated in three phases. Phase 1 (Development) includes focus groups with individuals with TBI, caregivers, support staff, and professionals and pilot testing the TATE SIP materials. Phase 2 (Evaluation), evaluates the effectiveness of the TATE SIP program using single subject “multiple baseline across settings” studies, evaluating TATE SIP applied to three off-the-shelf ATC devices (Palm Tungsten E2 PDA, Olympus digital voice recorder, Timex Data Link® watch). Phase 3 (Feasibility) evaluates the ability of trainers working in everyday settings (e.g., clinicians, job coaches, caregivers) to reliably implement TATE SIP with adults with cognitive impairments due to TBI. Outcome data measures device use (device skill acquisition), device usability (skills used in targeted environments), functional performance (activities of daily living impacted by device use), quality of life (subjective well-being), and social participation (community integration).

## Field Initiated Projects (FIPs)

Oregon

### **A Means of Expression: Online Communication Assessment to Improve Outcomes for Individuals with Severe Disabilities**

---

Oregon Health and Science University  
707 SW Gaines Road, PO Box 574  
Portland, OR 97207  
rowlandc@ohsu.edu  
www.communicationmatrix.org

**Principal Investigator:** Charity Rowland, PhD  
**Public Contact:** 503/494-2263; Fax: 503/494-2859

**Project Number:** H133G070129

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 07 \$200,000; FY 08 \$200,000; FY 09 \$200,000

**Abstract:** This project adapts, refines, evaluates, and markets an innovative technological online tool designed to provide appropriate assessment of communication skills for individuals with severe disabilities. The novel tool harnesses the potential of an online communication assessment protocol to achieve immediate and meaningful individual-level outcomes in the form of cost effective and appropriate assessment, generation of appropriate educational and therapeutic goals, and monitoring of progress. The online tool is a prototype online assessment tool for evaluating the communication skills of individuals at the earliest stages of communication and is based on the valid and reliable Communication Matrix. The new tool is designed to be used by caregivers and professionals. This project involves the adaptation, improvement, and expansion of this website to increase its usability and educational utility, including alpha and beta testing and four major evaluation studies.

## Field Initiated Projects (FIPs)

Oregon

### **Systematic Study of the Effectiveness of AAC Intervention to Improve Conversation in Individuals with Degenerative Language Disorders**

---

Oregon Health and Science University  
3181 SW Sam Jackson Park Road  
Portland, OR 97239  
friedm@ohsu.edu

**Principal Investigator:** Melanie Fried-Oken, PhD; Charity Rowland, PhD; 503/494-7587; 503/494-2263

**Public Contact:** 503/494-2619

**Project Number:** H133G080162

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 08 \$200,000; FY 09 \$200,000

**Abstract:** This project continues previous research in alternative and augmentative communication (AAC) tool use for adults with primary progressive aphasia (PPA) resulting from frontotemporal lobar dementia. Project objectives include: (1) to test the extent to which AAC intervention is associated with changes in conversation for persons with moderate Alzheimer's disease and persons with primary progressive aphasia under controlled conditions; (2) to test the extent to which AAC use is associated with daily functional changes in conversation for the two participant groups under natural conditions; and (3) to describe the behavioral and socio-relational characteristics of caregiver/partners and participants who display improved conversational skills with AAC treatment. Research is conducted with 100 adults from the Alzheimer's Disease Research Centers in Portland, OR and San Francisco, CA. AAC devices are customized for each participant with specific vocabulary depicting autobiographical memories and functional activities. Each participant engages in a spaced retrieval priming task followed by videotaped conversations with and without the AAC device in six controlled conversations with a research assistant (Study 1), and six practical context conversations with a caregiver (Study 2). Spontaneous AAC device use in the home is tracked for six months following Study 2 conversations. This project provides scientific data that influences management guidelines to improve daily conversational functioning of persons with degenerative language loss secondary to moderate Alzheimer's disease and PPA so that they may: (1) express their own needs and desires; (2) reduce care giving costs by facilitating communication between caregivers and their charges; and (3) increase quality of life for both caregivers and their charges with dementia.

## Field Initiated Projects (FIPs)

Tennessee

### Appropriate Directional Hearing Aid Switching in School Age Children

Vanderbilt University School of Medicine  
Vanderbilt Bill Wilkerson Center for Otolaryngology and Communication Sciences  
1215 21st Avenue South, Room 8310  
Nashville, TN 37232-8242  
todd.a.ricketts@vanderbilt.edu

**Principal Investigator:** Todd A. Ricketts, PhD

**Public Contact:** 615/936-5258; Fax: 615/936-5013

**Project Number:** H133G060012

**Start Date:** November 01, 2006

**Length:** 36 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 06 \$150,000; FY 07 \$150,000; FY 08 \$147,564; FY 09 (No-cost extension through 10/31/2010)

**Abstract:** This project defines and demonstrates a Personal Audio Information Service (PAIS) - a new mainstream system that expands the lifeline services currently offered to the visually impaired through audio information services (AIS) by automatically assembling a selection of locally relevant, customized audio content from current AIS broadcasts. The PAIS system combines the established framework of audio information services with the new programming flexibility that is afforded by HD Radio (the new FCC-sanctioned standard for digital radio broadcasting), creating a powerful on-demand media tool that will substantially improve media access for millions of print-impaired American consumers. Consumer-selected media may include local digital radio, live-read newspaper feeds, books on demand, and targeted newsfeeds. These may be organized and navigated using topic lists and other user-defined organization schemes. The project: (1) develops efficient audio interfaces for selecting, navigating, and listening to content; (2) develops effective systems for tagging, subdividing, and collecting topic-based content; (3) develops and demonstrates a full scale PAIS system in a real world broadcast pilot; and (4) documents and publishes recommended best operating practices for audio information service providers and consumer electronics manufacturers to fully deploy PAIS technologies. A new component of work undertaken by NPR in this project (with IA AIS agreement) is to design the PAIS system to maximize interoperability with potential podcast and other IP-enabled delivery methods.

**Field Initiated Projects (FIPs)**  
West Virginia

**Making Small Visual Displays Accessible to People with Vision Loss**

---

American Foundation for the Blind  
949 Third Avenue, Suite 200  
Huntington, WV 25701  
muslan@afb.net  
www.afbtech.org

**Principal Investigator:** Mark Uslan  
**Public Contact:** 304/523-8651; Fax: 304/523-8656

**Project Number:** H133G090026

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 09 \$199,687

**Abstract:** This project assesses the accessibility and usability of small visual displays (SVDs) for use by people with vision loss. SVDs can be found in products as diverse as cell phones, personal digital assistants, photocopiers, fax machines, kitchen and laundry appliances, home entertainment devices, exercise equipment, and diabetes self-management technology. Individuals with vision loss face severe limitations in using such products safely and effectively because the visual displays lack accessibility features. The “readability” of an SVD depends on two aspects – the ability of the visually impaired person to discern details and the ability of the screen to generate them. These two aspects can be quantified. Goals of this project include: (1) a replicable, and potentially commercializable, optics lab for measuring SVDs; (2) a set of standards for the design of SVDs relative to human contrast sensitivity function which will be commercially valuable for product developers; and (3) a searchable, tabular analysis of the accessibility and usability of SVDs used in approximately 250 products with informative guidance for consumers to use in inquiring about accessibility of products with SVDs.

## Field Initiated Projects (FIPs)

Wisconsin

### Development of Dynamic Pedorthosis for Improving Clubfoot Correction

---

Medical College of Wisconsin  
Department of Orthopaedic Surgery  
P.O. Box 1997, Suite C360  
Milwaukee, WI 53201  
xcliu@mcw.edu

**Principal Investigator:** Xue-Cheng Liu, PhD

**Public Contact:** 414/337-7323; Fax: 414/337-7337

**Project Number:** H133G060142

**Start Date:** December 01, 2006

**Length:** 36 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 06 \$150,000; FY 07 \$150,000; FY 08 \$150,000

**Abstract:** The purpose of this development project is to use advanced technologies to establish a new process to develop a customized dynamic pedorthosis for children with clubfoot. Researchers evaluate children with and without clubfoot to obtain dynamic plantar pressure using EMED Pressure System and three dimensional geometry from X-ray or CT scan. Based on this information, a computer model of the dynamic pedorthosis is developed using computer-aided design (CAD) and finite element modeling (FEM). The analysis of FEM simulates walking with different percentage of body weight. The customized CAD model is used to construct a negative mold of the pedorthosis using Solid Freeform Fabrication, a rapid prototyping technique. Next, the pedorthosis is constructed from the negative mold. Each customized pedorthosis constructed using this approach will have different material inserts as required to correct the abnormal plantar pressure resulting from the clubfoot deformity. Finally, five patients with their customized dynamic pedorthosis are followed clinically including X-ray, in-sole plantar pressure distribution study, and functional outcome analysis. This information is used to evaluate the pedorthosis for reliability and effectiveness, and if needed, used to modify the current pedorthosis.

## Field Initiated Projects (FIPs)

Wisconsin

# Clinical Reliability and Validity of a Foot Model: Assessing Efficacy and Functional Outcome with Orthotic Intervention in Children with Cerebral Palsy

---

Medical College of Wisconsin  
Department of Orthopaedic Surgery  
P.O. Box 1997, Suite C360  
Milwaukee, WI 53201  
xcliu@mcw.edu

**Principal Investigator:** Xue-Cheng Liu, PhD

**Public Contact:** 414/337-7323; Fax: 414/337-7337

**Project Number:** H133G060155

**Start Date:** January 01, 2007

**Length:** 36 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 06 \$150,000; FY 07 \$150,000; FY 08 \$150,000

**Abstract:** Equinovalgus and equinovarus are the most common foot and ankle abnormalities reported in children with cerebral palsy (CP). Orthotic intervention is frequently prescribed for children with CP to improve their standing, walking, and every day function. However, limited evidence exists to support the impact of these devices to prevent deformities or improve function. Specifically, no long-term functional outcome studies support use of different orthoses recommended by existing foot models. This study first validates a six-segment-foot model with MRI data and assesses clinical reliability of the model with physical examination and video-taped observational gait analyses in children with CP. Second, this study assesses the efficacy of four types of orthoses and determines their benefits following a two year period, using the six-segment-foot model, Gross Motor Function Measure, and Pediatric Evaluation of Disability Inventory.

Small Business Innovation Research (SBIR), Phase I  
California

**Hearsay: A Context-Driven Assistant Browser for  
Non-Visual Web Access**

---

Charmtech  
21701 Alcazar Avenue  
Cupertino, CA 95014  
sdchawla@yahoo.com

**Principal Investigator:** Sunil Chawla

**Public Contact:** 408/368-4833

**Project Number:** H133S090065

**Start Date:** October 01, 2009

**Length:** 6 months

**NIDRR Officer:** Joseph A. DePhillips

**NIDRR Funding:** FY 09 \$75,000

**Abstract:** This project engineers and implements Hearsay, a context driven, non-visual web browser that enables users with visual impairments to browse efficiently and perform transactions on the web allowing them to participate fully in the growing web-based economy, activities for education, commerce, and health care in the community. Hearsay combats the information overload problem experienced by individuals with visual impairments when using extant screen readers, which read web pages sequentially to users. Rather than having to wade through enormous amounts of unnecessary information irrelevant to the task at hand, Hearsay users are presented with page content in the order of relevance. Using a variety of techniques, Hearsay analyzes and organizes page content semantically from processing local link contexts, through shallow knowledge bases of relevant concepts, to automated construction of transaction models. Hearsay also provides special support for users performing transactions on the web, such as purchasing items, paying bills, or registering for services. Furthermore, for repetitive browsing tasks, Hearsay allows users to create and retrieve personalized content. Hearsay supports an increasing sophistication of semantic content processing and provides easy incorporation of third-party voice generators and input/output devices.

Small Business Innovation Research (SBIR), Phase I  
California

**Development of a Global Access Information Navigation (GAIN) for  
Persons Who Are Blind or Have Low Vision**

---

Sendero Group, LLC  
429 F Street, Suite 4  
Davis, CA 95616  
mikemay@sendergroup.com

**Principal Investigator:** Michael May

**Public Contact:** 530/757-6800; Fax: 530/757-6830

**Project Number:** H133S090026

**Start Date:** October 01, 2009

**Length:** 6 months

**NIDRR Officer:** Delores Watkins

**NIDRR Funding:** FY 09 \$74,963

**Abstract:** This project produces a dynamic and accessible public transportation information device, the Global Access Information Navigator (GAIN) system. This system is designed to collect, enhance, and share location-based information to empower an individual who is blind or visually impaired with relevant information for use in determining the optimal sequence to efficiently utilize available public transportation options. For example, rather than having to ask a passerby when Bus 12 leaves and where to buy the ticket, the user's accessible GPS device presents schedule and map information associated with that bus terminal. With the press of a couple of buttons, the bus schedule is displayed and the terminal layout described to the user.

Small Business Innovation Research (SBIR), Phase I  
Colorado

**CTAS: A Self-Directed Computer Technology Assessment System for  
Students and Adults with Intellectual Disabilities**

---

AbleLink Technologies, Inc.  
618 North Nevada Avenue  
Colorado Springs, CO 80903  
steve@ablelinktech.com

**Principal Investigator:** Steven E. Stock

**Public Contact:** 719/592-0347; Fax: 719/592-0348

**Project Number:** H133S090012

**Start Date:** October 01, 2009

**Length:** 6 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 09 \$75,000

**Abstract:** This project develops and evaluates the Computer Technology Assessment System (CTAS), a self-directed assessment system for ongoing evaluation of computer skills and abilities of individuals with intellectual disabilities to foster successful technology use. This is accomplished through field evaluation of a CTAS prototype that is developed and tested during the pilot study. Forty students are solicited for participation in the study comparing the results of CTAS assessment with traditional computer skills assessment results conducted previously by assessment professionals. Such assessments are considered an essential pre-requisite to equipping individuals with the right technology solutions given their needs and abilities. There are currently no assessment tools that address the unique computer use and interface needs of individuals with intellectual disabilities.

Small Business Innovation Research (SBIR), Phase I  
Colorado

**LiveWire: A Context-Aware, Location-Based Wireless Activity Support System to Facilitate Independence for Individuals with Intellectual Disabilities**

---

AbleLink Technologies, Inc.  
618 North Nevada Avenue  
Colorado Springs, CO 80903  
dan@ablelinktech.com

**Principal Investigator:** Daniel Davies

**Public Contact:** 719/592-0347; Fax: 719/592-0348

**Project Number:** H133S090027

**Start Date:** October 01, 2009

**Length:** 6 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 09 \$75,000

**Abstract:** This project develops an Internet-based system for managing and delivering “on demand” activity prompts to individuals with intellectual disabilities. Task supports presented with pictures, audio, and video prompts are delivered via wireless networking and presented to individuals with cognitive disabilities via a thin-client Task Player application that can run on a wide variety of desktop and mobile devices. This enables step-by-step task prompting to be made available to individuals using a consistent interface in any environment that has a wireless Internet access point. The project develops a prototype system and conducts a pilot study to assess the technical merit and feasibility of this approach for facilitating independence.

Small Business Innovation Research (SBIR), Phase I  
Florida

## Mobile Math Signing Dictionary for iPod Touch

---

VCom3D, Inc.  
3452 Lake Lynda Drive, Suite 260  
Orlando, FL 32817  
jasonh@vcom3d.com

**Principal Investigator:** Jason C. Hurdich  
**Public Contact:** 407/737-7310; Fax: 407/737-6821

**Project Number:** H133S090074  
**Start Date:** October 01, 2009  
**Length:** 6 months  
**NIDRR Officer:** Bonnie Gracer  
**NIDRR Funding:** FY 09 \$74,997

**Abstract:** This project develops and evaluates a Mobile Signing Math Dictionary (MSMD) that provides American Sign Language and Signed English definitions for Apple's touch-screen iPod. Using the proof-of-concept, the applicant implements and tests different user interfaces for handheld devices. These designs are evaluated in classrooms at grade levels three, five, and seven in at least five schools in locations throughout the United States. In addition to animated signing, the MSMD features the ability to include equations, charts, and visual representations of word problems that the animated character can refer to and describe in sign. The mobile version of the dictionary provides mobility and independence that leads to opportunity-based learning inclusions, on field trips, or while studying anytime and anywhere.

Small Business Innovation Research (SBIR), Phase I  
Florida

## Increasing Mobility and Maneuverability of Wheelchairs for Indoor, Transportation, and Recreational Activities

---

Rehabilitation Ideas-Wheelchair Products and Accessories, Inc.  
3802 Spectrum Boulevard, Suite #112  
Tampa, FL 33612  
steve@rehabideas.com

**Principal Investigator:** Stephen Sundarrao

**Public Contact:** 813/600-3058; Fax: 813/436-9359

**Project Number:** H133S090106

**Start Date:** October 01, 2009

**Length:** 6 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 09 \$75,000

**Abstract:** Wheelchairs and other mobility devices are designed for specific environments (flat, non-confined spaces) and have limited ability to negotiate certain outdoor environments, uneven terrain (nature areas), and soft terrain (beaches). As a result, users are either excluded from outdoor activities or they rely on assistance to transfer to a secondary, environment-specific chair. This project designs a unique base platform powered by the wheels of a power wheelchair which allows the user to access outdoor recreational areas that are typically not accessible in a standard wheelchair, including beaches and parks. The primary advantages are that the user does not need to transfer from his/her existing wheelchair and there is no auxiliary power needed. Project objectives include: (1) evaluating the feasibility and usability of the platform to enhance the mobility and maneuverability of wheelchairs in multiple environments; (2) testing the design, effectiveness, and application of two designs in three environments (beach/sand environment, gravel/rough terrain, and slopes and gradients); and (3) analyzing the impact of the designs and developing a commercialization plan.

Small Business Innovation Research (SBIR), Phase I  
Indiana

## A Navigation and Object-Location System to Assist Blind and Low-Vision Individuals in Indoor Environments

---

CreateAbility Concepts, Inc.  
5610 Crawfordsville Road, Suite 2401  
Marion, IN 46224  
steve@createabilityinc.com  
www.createabilityinc.com

**Principal Investigator:** Stephen M. Sutter  
**Public Contact:** 317/484-8400; Fax: 317/484-8401

**Project Number:** H133S090099  
**Start Date:** October 01, 2009  
**Length:** 6 months  
**NIDRR Officer:** Joseph A. DePhillips  
**NIDRR Funding:** FY 09 \$75,000

**Abstract:** This project demonstrates the technical merit, feasibility, and cost-effectiveness of combining ground-breaking Radio Frequency Identification (RFID) technology with an innovative approach and state-of-the-art software to deliver a system capable of removing barriers in vocational settings. This system assists individuals with disabilities to orient themselves and safely navigate in vocational environments. The system also is designed to assist individuals in finding and identifying items and objects within their environment. Specific project objectives include: (1) determining end user requirements, (2) developing a proof-of-concept prototype of the system, and (3) evaluating the utility of the prototype with actual individuals who are blind or visually impaired. The system is also designed to assist individuals in finding and identifying items and objects.

Small Business Innovation Research (SBIR), Phase I  
Indiana

## **Variable Position Mid-Wheel Drive System for Power Wheelchairs**

---

Criterion Health, Inc.  
6321 Tanglewood Road  
Terre Haute, IN 47802  
bobl@criterionhealth.net

**Principal Investigator:** Robert M. Levy

**Public Contact:** 812/894-2120

**Project Number:** H133S090013

**Start Date:** October 01, 2009

**Length:** 6 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 09 \$75,000

**Abstract:** This project designs, constructs, and evaluates a concept model based on current mid wheel designs. The concept model uses a variable position drive wheel system that can move forward or backward from the mid-wheel position using a simple mechanical system to change the position of the drive wheels. A series of five structured tests for maneuverability and/or stability are used to compare performance as a function of placement of the drive wheels. The feasibility of this concept model is based on demonstrating that a variable position drive wheel system optimizes performance under a greater variety of terrain and environmental conditions compared to a single position drive wheel system.

Small Business Innovation Research (SBIR), Phase I  
Massachusetts

**Clothing Worn by Individuals with Visual Impairments as a Hands-Free Common Platform for GPS Wayfinding Systems and Obstacle Avoidance Systems**

---

Science, Math and Engineering, Inc.  
45 Manning Road  
Billerica, MA 01821  
burns@aerodyne.com

**Principal Investigator:** Michael L. Burns  
**Public Contact:** 978/663-9500; Fax: 978/663-4918

**Project Number:** H133S090064

**Start Date:** October 01, 2009

**Length:** 6 months

**NIDRR Officer:** Delores Watkins

**NIDRR Funding:** FY 09 \$75,000

**Abstract:** This project develops a clothing based platform for Global Positioning Satellite (GPS) wayfinding systems used by individuals with visual impairment. The clothing platform allows for the integration of GPS wayfinding systems with clothing-based electronic obstacle avoidance systems. The goal is to provide the user wayfinding information integrated with obstacle avoidance information on the hands-free platform of the user's clothing. Global wayfinding and local obstacle avoidance information complement one another thereby increasing accessibility and integration of the user into the community.

Small Business Innovation Research (SBIR), Phase I  
Massachusetts

## Cooling System for Multiple Sclerosis Patients

---

Aspen Systems, Inc.  
184 Cedar Hill Street  
Marlborough, MA 01752  
scasey@aspensystems.com

**Principal Investigator:** Steve Casey

**Public Contact:** 508/281-5322; Fax: 508/480-0328

**Project Number:** H133S090061

**Start Date:** October 01, 2009

**Length:** 6 months

**NIDRR Officer:** Delores Watkins

**NIDRR Funding:** FY 09 \$74,713

**Abstract:** This project develops a small mobile personal cooling system that can be worn conveniently by individuals with heat-related disabilities. The successful development of this mobile technology: (1) supports access, promotes integration, and facilitates the independence of individuals with disabilities in the workplace and educational settings, and during recreational activities; (2) provides increased freedom and independence not only to individuals with multiple sclerosis but also to other disability populations; and (3) has further applicability for workers wearing protective equipment and/or in warm work environments, including workers in commercial and industrial settings, first respondent mission arenas, law enforcement, and the military.

**Small Business Innovation Research (SBIR), Phase I**  
Minnesota

## **A Display Reader for the Vision Impaired**

---

Advanced Medical Electronics Corporation  
6901 East Fish Lake Road, Suite #190  
Maple Grove, MN 55369  
ghavey@ame-corp.com

**Principal Investigator:** Gary D. Havey  
**Public Contact:** 763/463-4814; Fax: 763/463-4817

**Project Number:** H133S090069  
**Start Date:** October 01, 2009  
**Length:** 6 months  
**NIDRR Officer:** Joseph A. DePhillips  
**NIDRR Funding:** FY 09 \$75,000

**Abstract:** This project develops an electronic display reader, a software application that takes advantage of current and developing, “smart phone” technology. Current and future smart phones used by persons who are blind/visually impaired may be adapted to perform the application of real time reading of electronic displays. The advantage of this approach is that the software application can run on equipment that the user already owns and is presently using for communication and other applications. By leveraging a platform that is familiar and able to serve multiple purposes, the design avoids some shortcomings common in the development of adaptive technology. Integration of the applicant’s software with off-the-shelf hardware may potentially address a major unmet need but also significantly impact acceptance by individuals with disabilities.

Small Business Innovation Research (SBIR), Phase I  
Minnesota

## Transportation Assistant for the Cognitively Impaired

---

Koronis Biomedical Technologies Corporation  
6901 East Fish Lake Road, Suite #190  
Maple Grove, MN 55369  
plichter@koronisbiotech.com

**Principal Investigator:** Patrick A. Lichter  
**Public Contact:** 612/730-1091; Fax: 763/463-9000

**Project Number:** H133S090055

**Start Date:** October 01, 2009

**Length:** 6 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 09 \$75,000

**Abstract:** This project develops and evaluates the utility of a cognitive aid that takes advantage of the computing power and GPS location determination capabilities of inexpensive powerful third-generation cell phones providing location-sensitive transportation assistance. The cognitive assistant aids users by utilizing ubiquitous cell phone technology as the foundation of an advanced assistive device after the installation of the navigator software. Software is developed for mobile devices to provide location-based reminders, mistake detection, and remediation allowing individuals with cognitive disabilities to utilize public transportation systems more effectively and efficiently. This cognitive aid compensates for memory and other cognitive disorders via reminders or memory cues offered through an interface tailored to the individual, facilitating mobility with greater confidence and safety in urban settings.

## Early Math Intervention Program for Improved Comprehension and Communication in Problem Solving for Students with Learning Disabilities

---

Learnimation, LLC  
55 Washington Street, Suite 454  
Brooklyn, NY 11201  
sarah@learnimation.com

**Principal Investigator:** Sarah Manning  
**Public Contact:** 212/361-3706

**Project Number:** H133S090104

**Start Date:** October 01, 2009

**Length:** 6 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 09 \$74,991

**Abstract:** This project designs, builds and validates a universally-designed early math and science intervention gesture training program for pre-school through early middle school students with learning disabilities, their teachers and caregivers. Taking advantage of widely available technologies students, teachers, and caregivers are provided with training and practice in powerful new techniques via web-based software environment. Student training includes both direct instruction and access to peer-mediated instruction using agents in a virtual environment. The software application expands the access of students with learning disabilities to mathematics curricula and significantly improves the capacity of mainstream teachers and their aides to provide differentiated instruction to assess students with learning disabilities in reaching their full potential in mathematics.

Small Business Innovation Research (SBIR), Phase I  
Oklahoma

## Haptic Feedback Improvements for Prostheses

---

OrthoCare Innovations, LLC  
800 Research Parkway, Suite 310  
Oklahoma City, OK 73104

**Principal Investigator:** Pravin Chaubey  
**Public Contact:** 405/271-2466; Fax: 405/271-2467

**Project Number:** H133S090044

**Start Date:** October 01, 2009

**Length:** 6 months

**NIDRR Officer:** Delores Watkins

**NIDRR Funding:** FY 09 \$74,098

**Abstract:** This project optimizes haptic system design parameters and more thoroughly evaluates the impact of a vibratory haptic system for prosthetics. Objectives include: (1) building a hardware and software test bed for non-invasive voluntary control of a prosthetic hand with vibratory haptic feedback, (2) optimizing the factor application, (3) assessing the effectiveness of factor vibratory feedback on cognitive loading interpretations, and (4) assessing perceptions of subjects regarding the actual use of haptic feedback. Specifically, Objective One involves the construction of a controlled box. Fingertip sensors on the thumb and index finger of a myoelectric arm convey pressure data to a microprocessor. Using a mapping algorithm, the processor generates a corresponding waveform that is sent to feedback devices (tactors) placed on the skin of the upper arm. Objectives Two through four test the vibratory feedback on seven below-elbow amputees. Objective Two determines the best tactor location, vibration waveform, and time duration until deterioration in skin sensitivity occurs by measuring how well the subjects can sense a change in vibration frequency (as identified in previous work as a spectrum of interest). This information assists in the determination of when a resting period from vibrotactile stimulation is required to avoid over-stimulation of the skin. Objective Three tests the ability of the vibrotactile feedback to provide information on grasping force with the myoelectric hand. The myoelectric hand is controlled by the contraction intensity of the wrist extensor and flexor muscles as detected by EMG electrodes. Trials use the myoelectric hand to grasp a plush ball at forty percent, sixty percent, and eighty percent of the subject's maximum grasping force. Trials, using vibrotactile feedback, vibrotactile, and visual feedback, and no feedback are compared. Objective Four requires the subjects to rate the system in terms of level of comfort, accuracy, user friendliness, level of discomfort, and overall usefulness in grasping activities.

Small Business Innovation Research (SBIR), Phase I  
Utah

## New Electro-Hydraulic Foot Prosthesis

---

Motion Control, Inc.  
115 North Wright Brothers Drive  
Salt Lake City, UT 84116  
harold@utaharm.com

**Principal Investigator:** Harold H. Sears, PhD  
**Public Contact:** 801/326-3434; Fax: 801/978-0848

**Project Number:** H133S090067

**Start Date:** October 01, 2009

**Length:** 6 months

**NIDRR Officer:** Delores Watkins

**NIDRR Funding:** FY 09 \$75,000

**Abstract:** This project develops an electronic-controlled version of the advanced hydraulic foot/ankle (MCI Foot) demonstrating the feasibility of the automatic adjustment of resistance throughout the range of motion. The advanced MCI Foot, especially the automatic-controlled version, contributes to the function of the prosthesis wearer, resulting in advanced and more natural walking benefits. The project objectives include: (1) Implementation of electric servo-valves into the existing foot-ankle design. Manual valves have been developed at present, and in preliminary testing, shown to be successful at setting the foot wearer's preference for dorsi-flexion and plantar flexion; (2) Development of sensor for ankle position, inclination, temperature, and load for integration into the ankle electronic Controller. The sensors utilize a rugged design, for long-term reliable usage in the foot, and small size to fit within the anatomical shape of the foot; (3) Implementation of an algorithm for ankle control by microprocessor. The automatic control of ankle resistance depends upon the variable of position, inclination, and load, indicating the point in the gait cycle in which the walker's step is taken. The temperature is automatically compensated for as the hydraulic fluid warms and changes viscosity. Success in the function of the auto-controller is evaluated in-house, in the Foot Testing Center.

Small Business Innovation Research (SBIR), Phase II  
Colorado

**ATLAS: An Accessible Testing, Learning, and Assessment System for  
Individuals with Intellectual Disabilities to Facilitate Inclusion and  
Access to the General Curriculum**

---

AbleLink Technologies, Inc.  
618 North Nevada Avenue  
Colorado Springs, CO 80903  
dan@ablelinktech.com

**Principal Investigator:** Daniel Davies 719/592-0347

**Public Contact:** 719/592-0347; Fax: 719/592-0348

**Project Number:** H133S080066

**Start Date:** October 01, 2008

**Length:** 24 months

**NIDRR Officer:** Delores Watkins

**NIDRR Funding:** FY 08 \$250,000; FY 09 \$250,000

**Abstract:** This project builds upon previous research to fully develop and field test the ATLAS system, an innovative system that facilitates access to tests and surveys for individuals with intellectual and cognitive disabilities. ATLAS is a portable testing and assessment system that can be used by teachers and evaluators to create accessible, self-paced tests and evaluations for students and adults with intellectual disabilities which can then be completed by the individual in a self-directed manner using a portable computer device. The ATLAS system promotes the access of students with intellectual and cognitive disabilities to the general education curriculum by facilitating their participation in testing activities in the regular classroom. The ATLAS System addresses the important educational needs of individuals with intellectual and cognitive disabilities by facilitating independent access to tests and surveys for a significant population of American citizens using portable technology.

Small Business Innovation Research (SBIR), Phase II  
Florida

**Signing Science Pictionary for Young Learners Who are Deaf or  
Hard of Hearing**

---

VCom3D, Inc.  
3452 Lake Lynda Drive, Suite 260  
Orlando, FL 32817  
jasonh@vcom3d.com

**Principal Investigator:** Jason C. Hurdich

**Public Contact:** 407/737-7310; Fax: 407/737-6821

**Project Number:** H133S090134

**Start Date:** October 01, 2009

**Length:** 24 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 09 \$248,862

**Abstract:** In Phase II, this project continues to develop and evaluate the Signed English Signing Science Pictionary (SSP) software. SSP has at least 700 terms for handheld devices for use in grades K-3 and is used to promote team building and communication of scientific ideas for children with hearing disabilities. SSP versions are created for handheld media players, such as the Apple iPod Touch, as well as for selected emerging multifunction devices, such as iPhone, Blackberry, and Sidekick. This project also develops new signing characters, including animal and fantasy characters that are more appropriate to a younger age group than the SSP targets. The SSP may be made available for the Apple iPod Touch and for at least one additional mobile device, and sold through popular application channels such as Apple's iTunes store.

Small Business Innovation Research (SBIR), Phase II  
Illinois

## A Low-Cost Portable/Wearable Device for Intelligent Stretching and Movement Training of Hypertonic Forearm in Stroke with Outcome Evaluation

---

RehabTek, LLC  
2510 Wilmette Avenue  
Wilmette, IL 60091  
rehabtek\_bo@yahoo.com

**Principal Investigator:** Yupeng Ren 847/024-1659  
**Public Contact:** 847/024-1659; Fax: 847/853-8380

**Project Number:** H133S080076

**Start Date:** October 01, 2008

**Length:** 24 months

**NIDRR Officer:** Delores Watkins

**NIDRR Funding:** FY 08 \$239,013; FY 09 \$260,797

**Abstract:** This project develops a wearable/portable robotic device, IntelliStretch, to perform therapeutic rehabilitation of the arm with the following three integrated steps: (1) stretching a spastic/stiff joint to its extreme position under intelligent control to loosen the stiff joint, (2) voluntary movement training using virtual reality games interfaced with assistance/resistance control when needed, and (3) quantitative outcome evaluation. The device is low cost and portable so that patients can use the device conveniently and frequently in a local clinic under monitoring of a clinician or at home with initial instruction/training from a clinician. IntelliStretch is first modified for wearable design to improve portability and functionality. Second, in order to motivate/facilitate patients in motor-function recovery, voluntary movement training by playing virtual reality games is added. Finally, the outcome of the robotic treatment is evaluated quantitatively in terms of the biomechanical and neuromuscular properties of the joint. The IntelliStretch device facilitates the delivery of healthcare services to remote locations, such as patients' homes and local clinics, and, thus enables an increased number of patients to receive effective treatment and outcome evaluation conveniently while enjoying the games.

Small Business Innovation Research (SBIR), Phase II  
Indiana

**Hearing Companion: Handheld Portable Sound Identification and  
Critical Alerting Functionality for People Who Are Deaf or Have  
Hearing Loss**

---

CreateAbility Concepts, Inc.  
5610 Crawfordsville Road, Suite 2401  
Indianapolis, IN 46224  
steve@createabilityinc.com  
www.createabilityinc.com

**Principal Investigator:** Stephen M. Sutter  
**Public Contact:** 317/484-8400; Fax: 317/484-8401

**Project Number:** H133S080075  
**Start Date:** October 01, 2008  
**Length:** 24 months  
**NIDRR Officer:** Bonnie Gracer  
**NIDRR Funding:** FY 08 \$250,000; FY 09 \$250,000

**Abstract:** Based on previous research, this project develops and demonstrates the HearingCompanion which: (1) automatically recognizes specific sounds in the environment on a pocket-sized device; and (2) alerts the user on their mobile device via vibration, images, and captions that identify these recognized sounds. This efficient, wearable system utilizes existing and developing technology, improving the ability of a person who is deaf to function more naturally in a work or school environment. Phase II project goals include: (1) enhance the Hearing Companion device and application; (2) expand the number of mobile communication devices supported; (3) perform an extended usability evaluation of the device in a range of activities in vocational, public, and daily living scenarios; and (4) prepare for transition into commercialization. The portable handheld system significantly enhances the user's sense of safety, security, and independence by providing a means of sound recognition heretofore unavailable to these individuals. Moreover, the personal devices provide a convenient and powerful tool for mobile information and communication.

Small Business Innovation Research (SBIR), Phase II  
Minnesota

## Wireless Wrist Device to Alert the Deaf of Sounds and Events in Their Environment

---

Advanced Medical Electronics Corporation  
Engineering AME  
6901 East Fish Lake Road Suite #190  
Maple Grove, MN 55369  
gseifert@ame-corp.com  
www.ame-corp.com

**Principal Investigator:** Greg Seifert 763/463-4814  
**Public Contact:** 763/463-4814, ext. 101; Fax: 763/463-4817

**Project Number:** H133S080068

**Start Date:** October 01, 2008

**Length:** 24 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 08 \$250,000; FY 09 \$250,000

**Abstract:** This project develops a wireless system to alert individuals who are deaf to critical sounds and events in their environment. This efficient, wearable system utilizes existing and developing technology, improving the ability of a person who is deaf to function more naturally in a work or school environment. The system uses a consumer product called a Bluetooth wristwatch, which is essentially a wireless, wrist-worn computer interface and display. The Bluetooth watch serves as a hands-free universal interface to a network of sensors providing data about the surrounding environment and as a convenient interface for text messaging. The text messaging feature is significant since text messaging is common among individuals who are deaf and has also increased communication between individuals who are deaf and individuals who are hearing.

**Small Business Innovation Research (SBIR), Phase II**  
Minnesota

---

**Connectivity to Modern Electronics for the Hearing Disabled**

---

Advanced Medical Electronics Corporation  
6901 East Fish Lake Road, Suite 190  
Maple Grove, MN 55369  
ghavey@ame-corp.com

**Principal Investigator:** Gary D. Havey  
**Public Contact:** 763/463-4814; Fax: 763/463-4817

**Project Number:** H133S090130

**Start Date:** October 01, 2009

**Length:** 24 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 09 \$223,247

**Abstract:** During Phase II, this project continues to develop and test a wireless module system for interconnecting hearing aids with consumer electronic devices. The project uses the micro-behind-the-ear hearing aid module as a development platform. The goal is to provide a consumer electronics add-on module (audio digitizer and transmitter module) compatible with nearly all future wireless hearing aids. This new module allows hearing-aid users to directly receive high-quality sound data from cell phones, televisions, computers, MP3 players, classroom PA systems, and so forth.

Small Business Innovation Research (SBIR), Phase II  
New York

## **Audio-Tactile Interactive Computing with the Livescribe Pulse Pen**

---

Touch Graphics, Inc.  
330 West 38th Street, Suite 900  
New York, NY 10018  
sl@touchgraphics.com

**Principal Investigator:** Steven Landau  
**Public Contact:** 212/375-6341; Fax: 646/452-4211

**Project Number:** H133S090137

**Start Date:** October 01, 2009

**Length:** 24 months

**NIDRR Officer:** Delores Watkins

**NIDRR Funding:** FY 09 \$249,945

**Abstract:** This Phase II project develops a system for delivering audio-tactile computer applications that are accessible to high school and college students who have print disabilities. The applications include: a scientific calculator, a periodic table of elements, subway maps, and a game. In each application, the user touches the tip of the Livescribe Pulse Pen to raised-line and textured (tactile) images printed on plastic film. As the user does this, the audio system for the pen plays spoken descriptions of features he/she touches. Tests are conducted with human subjects at two sites and expose students with visual impairments to each application to study their performance and actions while using the system. The vibrations and other haptic sensations delivered into the user's hand as the pen's tip is guided through a variety of grooves, channels, dimples, and punched holes bring an interactive richness and control without adding to tactile graphical clutter. By overlaying tactile images with additional information that is relatively transparent to fingertip touching, this displays more information without increasing cognitive load, thereby improving comprehension of potentially complex figures.

Small Business Innovation Research (SBIR), Phase II  
Oregon

**My Scrivener™ Innovative Technology to Enhance  
Fine Motor Function**

---

Obslap, Inc.  
3130 Summit Sky Boulevard  
Eugene, OR 97405  
obslap.research@comcast.net

**Principal Investigator:** Susan Palsbo  
**Public Contact:** 541/505-7591; Fax: 541/505-759,\*51

**Project Number:** H133S070082

**Start Date:** October 01, 2007

**Length:** 24 months

**NIDRR Officer:** Delores Watkins

**NIDRR Funding:** FY 07 \$262,565; FY 08 \$233,594; FY 09 (No-cost extension through 3/31/10)

**Abstract:** This project builds upon current research, development, and evaluation work for a prototype special education intervention called My Scrivener™. My Scrivener™ is based on emerging research demonstrating that computer-assisted motion training can stimulate the growth of neural connections. The system uses a force-feedback peripheral haptic unit attached to a personal computer for “sense of touch” instruction in printing, through repetitive-motion, for children with fine-motor skill deficits. During Phase II, a prototype is being developed and clinical trials conducted to demonstrate the feasibility of visible improvement in the child’s fine motor and handwriting skills. My Scrivener™ is anticipated to significantly improve proprioceptive awareness and hence, writing, as measured by accuracy and speed for children with development coordination disorders arising from attention deficits, autism, mild cerebral palsy, intellectual disabilities, or unspecified learning disabilities.

**Small Business Innovation Research (SBIR), Phase II**  
Oregon

## **Why Go It Alone? The Use of Public Resources to Enhance Computer Accessibility for Individuals with Intellectual Disabilities**

---

Life Technologies, LLC  
P.O. Box 11306  
Eugene, OR 97440  
foxl@ohsu.edu

**Principal Investigator:** Lynn Fox 503/725-3188

**Public Contact:** 503/725-3188

**Project Number:** H133S070096

**Start Date:** October 01, 2007

**Length:** 24 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 07 \$244,206; FY 08 \$253,510; FY 09 (No-cost extension through 3/31/2010)

**Abstract:** This Phase II SBIR continues the design and development of the Personal Access Computer Key, a portable USB interface for the CogLink email program for people with cognitive disabilities. The Personal Access Computer Key (PACK) is a modified USB (Universal Serial Bar) drive that circumvents these barriers by providing an inexpensive portable computing environment. The PACK is designed to accommodate adapted software that can be launched on personal computers or on publicly accessible, updated computers maintained by on-site staff. Four participants with acquired cognitive impairments successfully used the PACK to launch our CogLink email program on public computers at senior centers and residential communities. Unfortunately, the PACK drive could not be used on all public computers (e.g. public library computers) due to security issues. In Phase II, an incremental design and participatory research process is employed to address PACK accessibility barriers. Further development includes: (1) a website allowing clinicians and care providers of persons with cognitive impairments to identify appropriate technology for computing; (2) customizing a PACK desktop that hides the Windows operating system from the user, and (3) simplifying a web portal for Internet access. The feasibility of using the PACK drive to launch the CogLink email program is demonstrated in Phase I. Phase II focuses on the development of technology to support access and promote the integration of individuals with disabilities in multiple community settings. Phase II activities include: (1) publishing results of a survey of public computing environments that comprehensively assesses availability and accessibility of public terminals and wireless access; (2) expanding PACK software applications; (3) developing a web portal for access to applications targeted to individuals with cognitive impairments and their care providers; and (4) developing and launching a web application that support people can use to determine the optimum computing environment and hardware for a person with cognitive impairment. A focus on collaboration between experts in computer science and rehabilitation ensures successful deployment of hardware and software packages and fosters wide-spread distribution during Phase III.

Small Business Innovation Research (SBIR), Phase II  
Oregon

**Television Assisted Promotion (TAP): Enhancing Rehabilitation  
Outcomes with Familiar Technology**

---

Life Technologies, LLC  
P.O. Box 11306  
Eugene, OR 97440  
rik@coglink.com

**Principal Investigator:** Richard Lemoncello 541/915-8472

**Public Contact:** 541/915-8472; Fax: 541/346-5373

**Project Number:** H133S080077

**Start Date:** October 01, 2008

**Length:** 24 months

**NIDRR Officer:** Delores Watkins

**NIDRR Funding:** FY 08 \$251,000; FY 09 \$249,000

**Abstract:** Based on previous research, this project (1) refines the TV Assisted Prompting (TAP) system hardware and software while expanding its utility to new rehabilitation domains; and (2) continues to employ an incremental design process, partnering with patients, care providers, and therapists to design and evaluate a user-friendly system. The TV Assisted Prompting (TAP) system offers a simple alternative for delivering home program content through a patient's own TV, prompting and motivating them to initiate and complete home therapy programs. In this second phase, the TAP system is refined into a flexible, less expensive system for commercialization. Technical and rehabilitation development expands upon the current system features to develop user-friendly interfaces for clinicians and patients which facilitate the use of the TAP system in a variety of rehabilitation programs. The TAP system benefits the rapidly growing population of individuals with cognitive disabilities in need of on-going rehabilitation to maximize their progress post-injury.

Small Business Innovation Research (SBIR), Phase II  
Pennsylvania

## Low Vision Lime: Solution for Low Vision Musicians to Read, Perform, Write, and Print Music Notation

---

Dancing Dots Braille Music Technology, L.P.  
1754 Quarry Lane, P.O. Box 927  
Valley Forge, PA 19482  
info@dancingdots.com  
www.dancingdots.com

**Principal Investigator:** William McCann  
**Public Contact:** 610/783-6692

**Project Number:** H133S070089

**Start Date:** October 01, 2007

**Length:** 24 months

**NIDRR Officer:** Delores Watkins

**NIDRR Funding:** FY 07 \$250,150; FY 08 \$249,865; FY 09 (No-cost extension through 12/15/09)

**Abstract:** This project evaluates and defines the Lime notation software, a self-contained, music reading and writing system that allows low vision musicians to independently accomplish typical tasks important to performers and composers with normal vision. It enables performers and composers with low vision to read/perform and write/revise notation, including accessible editing and printing. Specifically, the system allows for magnification that is up to 10 times the original image; displays magnified notation on a flat-panel monitor mounted on a music stand using a combination of automatic and user-controlled scrolling; adds specialized magnification of music notation, a custom scrolling mode, user control of colors and contrast; integrates a touch tablet and stylus of manual markup; and expands the implementation of MusicXML import/export to facilitate exchange with commercial notation software. Project goals include: (1) refining and completing continuous scrolling display options; (2) completing Lime's integrated score enlargement and low vision feature set; (3) finalizing configuration and scripting of third-party magnification utilities; (4) measuring effectiveness of new features with a select cross-section of musicians with low vision; (5) developing markup option for handwriting annotations on scores; (6) expanding MusicXML import/export capability; and (7) measuring effectiveness with a select cross-section of musicians with low vision.

Small Business Innovation Research (SBIR), Phase II  
Utah

## Wireless EMG Preamp and Improved Mounting System

---

Motion Control, Inc.  
115 North Wright Brothers Drive  
Salt Lake City, UT 84116  
harold@utaharm.com  
www.utaharm.com

**Principal Investigator:** Harold H. Sears, PhD  
**Public Contact:** 801/326-3434; Fax: 801/978-0848

**Project Number:** H133S070084

**Start Date:** October 01, 2007

**Length:** 24 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 07 \$257,065; FY 08 \$242,935; FY 09 (No-cost extension through 6/30/2010)

**Abstract:** This project develops a small, waterproof, Wireless EMG Preamp sensor for myoelectric arm prostheses. The waterproof sensor transmits a digital signal via a wireless link, eliminating many of the wires and connectors associated with arm prostheses, and allowing connection to modern roll-on gel type liners (which maintain consistent and intimate contact with the wearer's skin). The Wireless EMG Preamp sensor is designed for use with popular mounting techniques, and improves the contact of electrodes with the skin, reduces the wires that the prosthetist must install inside the socket, and through digital signal processing, reduces the interference from rapidly-growing causes of EMG signal problems, thus creating a benefit for both the wearers and prosthetists. The Wireless EMG Preamp system enhances the practicality of myoelectric arm fittings by reducing breakdowns, and thereby increasing the reliability of the day-to-day wearer's control of the arm prosthesis.



## Participation and Community Living

---

NIDRR's focus on participation follows the stated purpose of independent living programs to promote a philosophy of independent living, including a philosophy of consumer control, peer support, self-help, self-determination, equal access, and individual and system advocacy, in order to maximize the leadership, empowerment, independence, and productivity of individuals with disabilities, and the integration and full inclusion of individuals with disabilities into the mainstream of American society. NIDRR sponsors research to improve knowledge of individual- and societal-level factors that may serve as barriers to, or facilitators of, participation among all people with disabilities.

### Contents

Rehabilitation Research and Training Centers (RRTCs) .....	3
Disability and Rehabilitation Research Projects .....	14
Field Initiated Projects (FIPs) .....	20
Small Business Innovation Research (SBIR), Phase II .....	42



Rehabilitation Research and Training Centers (RRTCs)  
California

## Personal Assistance Services (PAS) in the 21st Century

---

University of California, San Francisco  
3333 California Street, Suite 455  
San Francisco, CA 94118-0612  
pas@ucsf.edu  
www.pascenter.org

**Principal Investigator:** Charlene Harrington, PhD, RN; H. Stephen Kaye, PhD; Mitch LaPlante, PhD; Robert Newcomer, PhD; 415/476-4030

**Public Contact:** 866/727-9577; 415/502-7190 (V); 415/502-5216 (TTY); Fax: 415/476-6552

**Project Number:** H133B080002

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 08 \$850,000; FY 09 \$850,000

**Abstract:** This rehabilitation research and training center focuses on: (1) improving access to Personal Assistance Services (PAS) by individuals with disabilities; (2) improving the workforce to support individuals with disabilities; and (3) understanding the complexities of the economics of PAS. This project: (1) analyzes trends in the met and unmet needs for PAS in the United States, and the changing demographics of the PAS population, and makes national and state projects of need; (2) investigates the relationship between need and economic status for working age and older groups; (3) tracks and analyzes trends in PAS participants, services, and expenditures and federal and state Olmstead-related initiatives to expand PAS; (4) identifies state PAS policies and barriers to meeting the need for PAS; and (5) analyzes state PAS intervention strategies and factors which impact the success of expanding PAS services. Additionally, this project develops health promotion and educational tools, supports, and interventions to improve the health of caregivers and PAS users; addresses the needs of children and their family caregivers through focused research on the impact of family caregiving on employment; and examines the needs and supports for aging minority caregivers and the amount and type of caregiving provided by family or friends. Moreover, this project gathers and makes available existing strategies, and develops a model approach for emergency PAS. While monitoring and analyzing trends and demographics of paid PAS workforce, this project identifies and tracks state strategies to improve PAS worker wages and benefits; monitors state trends in the number and diversity of PAS workers, their compensation, turnover, and vacancies; and evaluates the effectiveness of state efforts. This project also identifies and makes available comprehensive information about developments in state training requirements for PAS workers and evaluation of these programs; collects and analyzes primary data on workplace PAS, AT, and employment supports; and analyzes barriers to employment among Medicaid PAS beneficiaries and whether AT lessens the need for PAS. Finally, the RRTC analyzes the role of tax laws that affect reimbursement for PAS.

Rehabilitation Research and Training Centers (RRTCs)  
Florida

**Rehabilitation Research and Training Center for Children's Mental  
Health**

---

University of South Florida  
Florida Mental Health Institute  
13301 Bruce B. Downs Boulevard MHC2335  
Tampa, FL 33612-3807  
kutash@fmhi.usf.edu  
rtckids.fmhi.usf.edu

**Principal Investigator:** Robert Friedman, PhD 813/974-4640

**Public Contact:** Krista Kutash, PhD 813/974-4661 (V); Fax: 813/974-6257

**Project Number:** H133B040024

**Start Date:** October 01, 2004

**Length:** 60 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 04 \$835,000; FY 05 \$835,000; FY 06 \$801,190; FY 07 \$785,400; FY 08 \$750,400; FY 09 (No-cost extension through 3/31/10)

**Abstract:** The Research and Training Center Children's Mental Health conducts an integrated set of research projects designed, in the short run, to enhance knowledge about effective implementation of systems of care, and, in the long run, to make it possible for children with serious emotional disturbances to live, learn, work, and thrive in their own communities. The Center has developed a theory of factors that contribute to effective implementation; within that theory is a strong emphasis on the importance of understanding from a systemic perspective the interrelationship between the different factors, and their relationship to the community culture and context in which a service delivery system exists. The Center has a set of six interconnected research projects that use both quantitative and qualitative methods, and are holistic in their focus, to further test and develop its theory. The Center translates new knowledge from research into change in policy and practice through a targeted program of training, consultation, technical assistance, publication, and dissemination. To support these efforts, the Center maintains dissemination partnerships with a range of organizations committed to help present research findings in formats well-suited for key audiences of state and local policy makers, family organizations, researchers, and representatives of related service sectors.

Rehabilitation Research and Training Centers (RRTCs)  
Illinois

**Rehabilitation Research and Training Center for Health and Function  
Across the Lifespan of Individuals with Intellectual and Developmental  
Disabilities**

---

University of Illinois at Chicago  
Department of Disability and Human Development  
College of Applied Health Sciences  
MC 626; 1640 Roosevelt Road  
Chicago, IL 60608-6904  
rrtcamr@uic.edu  
www.rrtcadd.org

**Principal Investigator:** Tamar Heller, PhD 312/413-1647

**Public Contact:** Alan Factor, Associate Director 800/996-8845 (V); 312/413-1520 (V); 312/413-0453 (TTY); Fax: 312/413-1630

**Project Number:** H133B080009

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 08 \$849,996; FY 09 \$849,997

**Abstract:** This project provides a beneficial impact on the health and function of adults with intellectual and developmental disabilities (I/DD) and their families over their lifespan through a coordinated set of research, training, technical assistance, and dissemination activities. Project goals include: (1) improving health and function of adults with I/DD; (2) enhancing consumer-directed home and community-based long-term care; (3) reducing environmental barriers to health and community participation; and (4) developing an improved instrument to measure health and function in persons with I/DD to facilitate assessment of outcomes in health promotion interventions. Projects relating to the promotion of health and function include: (1) examination of risk factors and age-related changes in health status for adults with varying neuro-developmental conditions; (2) cohort study of health behaviors on health and function, and interventions to improve balance and prevent falls for people with I/DD; and (3) innovative approaches to community-based health promotion for people with I/DD. This RRTC enhances caregiving supports and consumer direction through research on hiring practices in consumer direction, interventions to improve consumer directed services, and family support interventions to improve the health of minority families. Additionally, this project develops and tests tools used in measuring the effectiveness and efficiency of home-based supports and in measuring the cognitive, social, and physical accessibility of environments for people with I/DD.

Rehabilitation Research and Training Centers (RRTCs)  
Kansas

**Rehabilitation Research and Training Center on Measurement and  
Interdependence in Community Living (RRTC/MICL)**

---

The University of Kansas  
Research and Training Center on Independent Living  
1000 Sunnyside Avenue  
Room 4089 Dole Center  
Lawrence, KS 66045-7555  
rtcil@ku.edu  
www rtcil.org/micl/

**Principal Investigator:** Glen W. White, PhD 785/864-4095

**Public Contact:** Pam Wilits 785/864-4095 (V); 785/864-0706 (TTY); Fax: 785/864-5063

**Project Number:** H133B060018

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 06 \$649,839; FY 07 \$649,908; FY 08 \$649,686; FY 09 \$649,909

**Abstract:** The goal of this project is to increase the independence and participation of people with disabilities in their communities through the development and implementation of scientifically sound, theoretically driven, and evidence-based interventions. Researchers accomplish this through six core projects. Two research projects, one on community participation and a second on economic utility, involve development of theory-driven measurement tools. The remaining four projects include the application of these measurement tools as part of their methods and procedures. Two of these projects are interventions and two develop model assessments. The first assessment project uses secondary analysis to develop and implement a model for assessing the economic utility and health-related outcomes of participants enrolled in Home and Community-Based Service (HCBS) waivers. The second assessment project evaluates the effects of different independent living advocacy-service models to determine the comparative effectiveness of different models in increasing community participation. The first intervention project examines the effectiveness of personal assistance services and enhanced training to increase consumer participation in the community. The second intervention project is a multisite study that examines the effects of a consumer-led grassroots approach in identifying and removing barriers to increase community participation. Together, these projects represent a comprehensive, integrated, and robust set of activities that recognize that “disability” is an interaction between the characteristics of an individual and his or her environment.

Rehabilitation Research and Training Centers (RRTCs)  
Massachusetts

**Rehabilitation Research and Training Center for Recovery and  
Recovery Oriented Psychiatric Rehabilitation for Persons with Long-  
Term Mental Illness**

---

Boston University  
Center for Psychiatric Rehabilitation  
940 Commonwealth Avenue West  
Boston, MA 02215-1203  
mfarkas@bu.edu; erogers@bu.edu  
[www.bu.edu/cpr/research/ongoing/rtc2009/index.html](http://www.bu.edu/cpr/research/ongoing/rtc2009/index.html)

**Principal Investigator:** Marianne Farkas, ScD; E. Sally Rogers, ScD 617/353-3549

**Public Contact:** E. Sally Rogers, ScD 617/353-3549; Fax: 617/353-7700

**Project Number:** H133B040026

**Start Date:** November 01, 2004

**Length:** 60 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 04 \$750,000; FY 05 \$750,000; FY 06 \$750,000; FY 07 \$750,000; FY 08 \$750,000; FY 09 (No-cost extension through 6/30/2010)

**Abstract:** This project focuses on the concepts and dimensions of recovery and the various factors that inhibit and facilitate recovery from long-term mental illness by a comprehensive and meritorious set of research projects and training, technical assistance, and dissemination activities. The research and the training, dissemination, and technical assistance programs are organized into the following three programmatic areas of investigation and development: concepts and dimensions of recovery, factors enhancing recovery, and factors inhibiting recovery. The research projects are designed to have an impact on the field at multiple levels, including the personnel level as well as the program and system levels. Research projects use a participatory research process with significant input from consumers and other stakeholders, and culminate in dissemination, training, or technical assistance activities to maximize the input of the research program. The Training, Dissemination, and Technical Assistance (TDTA) projects are designed to provide exposure, experience, and expertise levels of knowledge transfer. The TDTA program produces new technologies in recovery and psychiatric rehabilitation, and increases the likelihood that researchers, service providers, and others use the cumulative knowledge developed by the RRTC. The RRTC is tied together by its programmatic focus on the three specific core areas, strengthened by the use of appropriate research strategies, and assisted by a vigorous program of training, technical assistance, and dissemination activities designed to maximize the impact of the RRTC at all levels in the field of psychiatric rehabilitation.

Rehabilitation Research and Training Centers (RRTCs)  
Massachusetts

## Opening Doors for Children with Disabilities and Special Health Care Needs

---

Children's Hospital  
Institute for Community Inclusion  
300 Longwood Avenue  
Boston, MA 02115-5737  
[www.openingdoorsforyouth.org/](http://www.openingdoorsforyouth.org/); [developmentalscreening.org/](http://developmentalscreening.org/)

**Principal Investigator:** Judith S. Palfrey, MD  
**Public Contact:** 617/355-4661; Fax: 617/730-0633

**Project Number:** H133B060012

**Start Date:** October 01, 2005

**Length:** 60 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 06 \$800,000; FY 07 \$800,000; FY 08 \$800,000; FY 09 \$800,000

**Abstract:** This rehabilitation research and training center on children with disabilities who have special health care needs (CYDS) tests the effectiveness of two intensive interventions, integrated transition planning and community participation in recreation and fitness, and demonstrates the viability of a screening tool to promote access to services and supports for traditionally underserved communities. Research activities include two intervention projects that use randomized controlled designs to improve the educational and recreational activities of CYDS and a demonstration project to improve the early identification of CYDS from traditionally underserved communities. Research Study 1 investigates the use of a regional interagency team that integrates innovative practices in education, social services, and medical support for transition aged students. Research Study 2 builds off of innovative practices in recreation and volunteer training to examine a model that integrates CYDS into community recreation activities. Research Study 3 models the integration of a reliable screening mechanism into the flow of activity at a busy, urban neighborhood health center. The RRTC is a collaboration of the Massachusetts Consortium for Children with Special Health Care Needs, the Parent Advocacy Coalition for Educational Rights (PACER), and six multicultural community-based organizations that serve traditionally underrepresented communities. RRTC staff and collaborators include nationally and internationally known experts in pediatrics, nursing, public policy, education, family advocacy, rehabilitation, and community organizing.

Rehabilitation Research and Training Centers (RRTCs)  
Minnesota

**Rehabilitation Research and Training Center for Community Living  
and Employment for Individuals with Intellectual and  
Developmental Disabilities**

---

University of Minnesota  
The Institute on Community Integration  
204 Pattee Hall, 150 Pillsbury Drive, SE  
Minneapolis, MN 55455  
lakin001@umn.edu  
rtc.umn.edu

**Principal Investigator:** Charlie Lakin, PhD 612/624-5005

**Public Contact:** Sheryl Larson, PhD 612/625-6024; Fax: 612/625-6619

**Project Number:** H133B080005

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 08 \$850,000; FY 09 \$850,000

**Abstract:** The Rehabilitation Research Training Center for Community Living (RRTC/CL) conducts intervention and outcome research to generate and share knowledge about community living, employment, and self-determination. Through compressive study of individual outcomes of a random sample of 10,300 adults with intellectual and developmental disabilities (I/DD) from 15 geographically representative states, this project studies intervention programs in self-determination, relationship building, employment, and direct support professional training, and the first US and largest ever trial of the active support model of organizational and staff support of persons with I/DD. Additionally, this study identifies and evaluates existing instrumentation in community living outcome studies. The RRTC/CL conducts quantitative intervention, outcome studies, and research synthesis on the state of knowledge and practice and case studies of organizations exemplifying transformations and practice needs in order to achieve full inclusion. Through training, conferences, and technical assistance this project provides an integrated “intramural” training program that develops a “next generation” of skilled disability researchers and professionals. This includes the RRTC/CL College of Direct Support, a national, multimedia, interactive, Internet-based training program.

Rehabilitation Research and Training Centers (RRTCs)  
Oregon

**Rehabilitation Research and Training Center for Community  
Integration for Individuals with Disabilities, Strengthening Family and  
Youth Participation in Child and Adolescent Mental Health Services**

---

Portland State University  
Regional Research Institute  
School of Social Work  
P.O. Box 751  
Portland, OR 97207-0751  
janetw@pdx.edu  
www.rtc.pdx.edu

**Principal Investigator:** Barbara Friesen, PhD 503/725-4166

**Public Contact:** Donna Fleming, Center Manager 503/725-8313; Fax: 503/725-4180

**Project Number:** H133B040038

**Start Date:** October 01, 2004

**Length:** 60 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 04 \$835,000; FY 05 \$835,000; FY 06 \$801,190; FY 07 \$785,400; FY 08 \$750,400; FY 09 (No-cost extension through 9/30/2010)

**Abstract:** This project conducts research, training, and technical assistance activities to study and promote effective, community-based, culturally competent, family-centered, individualized, and strength-based services for children and youth with emotional or behavioral disorders and their families. Projects include: (1) "Community Integration (CI) of Transition-Age Youth," is designed to gain understanding of CI and related concepts from the perspectives of transition-age youth, young adults, and caregivers; (2) "Transition to Independence: Outcomes of School-Based Support for Youth with Mental Health and Developmental Disabilities" is evaluating a pilot school-based program that assists participants age 18-21 with mental health and developmental disabilities to successfully transition to employment and appropriate levels of independent living and use of adult social services; (3) "Achieve My Plan (AMP)" [previously Partnerships in Individualized Planning] develops an intervention to increase youth and family member participation in the individualized service planning process, a conceptual framework for understanding recovery in children's mental health, and ways to reduce stigma; (4) "Work-Life Integration" addresses CI for adult caregivers of children and youth with emotional disorders, specifically around maintaining employment. It is designed to influence human resource professionals' practice, and aims to reduce stigma and increase organizations' family friendliness; (5) "Transforming Transitions to Kindergarten" focuses on the preschool-kindergarten transition for young children with challenging behaviors. It develops and tests an intervention promoting children's successful school entry while empowering caregivers; (6) "Practice-Based Evidence: Building Effectiveness from the Ground Up," conducts a case study in partnership with a Native American youth organization and the National Indian Child Welfare Association, and addresses the need to study practices that are believed to be helpful, but for which little evidence exists.

Rehabilitation Research and Training Centers (RRTCs)  
Oregon

**Rehabilitation Research and Training Center for Pathways to Positive Futures: Supporting Successful Transition for Youth and Young Adults with Serious Mental Health Conditions**

---

Portland State University  
Regional Research Institute for Human Services  
P.O. Box 751 (ORSP)  
Portland, OR 97207-0751  
flemingd@pdx.edu

**Principal Investigator:** Nancy M. Koroloff 503/725-9675

**Public Contact:** Donna Fleming, Center Manager 503/725-8313; Fax: 503/725-4180

**Project Number:** H133B090019

**Start Date:** October 01, 2009

**Length:** 60 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 09 \$800,400

**Abstract:** This project incorporates research, targeted training, and dissemination while adhering to a single conceptual framework of synthesizing research guided by intervention approach. This framework focuses on building assets in four areas: (1) self-determination and positive identity, (2) youth- and young adult-directed decision making, (3) skills for adult roles, and (4) supportive relationships with peers and adults. The eight research projects (R1-R8) employ randomized controlled trial design, focusing on testing the efficacy of an intervention and improving outcomes for transition-age youth and young adults with serious mental health conditions. R1: My Career Vision tests an approach to career planning and employment for young adults, ages 21-25, who are receiving SSI or extended special education services. R2: Better Futures tests a comprehensive intervention to assist young people in foster care with serious mental health conditions to prepare to participate in post-secondary education. R3: Achieve My Plan studies the efficacy of an approach to helping young people lead their mental health treatment planning teams, and to build service capacity to support youth engagement. Two projects develop and test assessment inventories: R4: Transition Policy Consortium develops an inventory that assesses the level of community support for transition services with a specific emphasis on measuring collaboration and continuity of care between the child and adult mental health systems; and R5: Finding Our Way furthers the development of a culturally specific self-assessment tool for American Indian/Alaskan Native youth, ages 13-19, and the tool is modified to include issues relevant to transition. Training, supervision, and coaching materials are produced to improve provider practice. R6: eHealth examines the ways youth and young adults use the Internet to find information about mental health care, conditions, symptoms, or medications. The R6 project identifies the kinds of information that young people look for, tracks their search processes, and assesses how they verify the accuracy of the information they find; then uses this information to develop and test an eHealth literacy curriculum. R7: Recovery Outcomes analyzes data from the System of Care National Evaluation related to young people's recovery outcomes. R8: Mediators of Stigmatization analyzes data from nationally representative samples of youth and young adults, and uses this information to identify potentially effective anti-stigmatization strategies.

Rehabilitation Research and Training Centers (RRTCs)  
Pennsylvania

**Rehabilitation Research and Training Center on Participation and  
Community Living of Individuals with Psychiatric Disabilities**

---

University of Pennsylvania  
Collaborative on Community Integration  
3535 Market Street, 3rd Floor - CMHPSR  
Philadelphia, PA 19104  
pennrrtc@mail.med.upenn.edu  
www.upennrrtc.org

**Principal Investigator:** Mark Salzer, PhD 215/349-8483

**Public Contact:** Katy Kaplan 215/746-6713; Fax: 215/349-8715

**Project Number:** H133B080029

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 08 \$850,000; FY 09 \$850,000

**Abstract:** The research of this center focuses on two core areas: (1) Enhancing the capacity of individuals and systems to maximize participation and community living through the advancement of theory, measures, methods, and intervention knowledge, with a focus on Centers for Independent Living, specific (education, parenting, mental health care) and broad participation domains, and efforts to address disparities in understudied areas; and (2) increased incorporation of mental health research findings into practice and policy through systematic reviews, partnering with multiple stakeholders to advance the use of knowledge, and providing training, dissemination, and technical assistance to change behaviors and practices of key stakeholders. The goal of this Center is to ensure, in the wake of the Olmstead decision, that individuals with psychiatric disabilities not only move from institutional care to more integrated settings but also are free to choose to participate in a wide range of roles in their communities. This Center capitalizes upon longstanding collaborations among three Philadelphia-based central partners, experience derived from previous research, and trusting and mutual partnerships with multiple stakeholders. These guarantee the project's ability to conduct research that advances knowledge that meets the needs of end-users and effectively translate this knowledge into innovative, next generation policies and practices.

Rehabilitation Research and Training Centers (RRTCs)  
Texas

**Developing Strategies to Foster Community Integration and  
Participation (CIP) for Individuals with Traumatic Brain Injury**

---

The Institute for Rehabilitation and Research (TIRR)  
Brain Injury Research Center  
2323 South Shepherd, Suite 907  
Houston, TX 77019  
angelle.sander@memorialhermann.org

**Principal Investigator:** Angelle M. Sander, PhD  
**Public Contact:** 713/630-0516

**Project Number:** H133B090023

**Start Date:** October 01, 2009

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 09 \$849,956

**Abstract:** This RRTC conducts three research projects and five training projects, providing a comprehensive approach to improving participation in all areas of community integration for all persons with Traumatic Brain Injury (TBI), including minorities. Research Project 1 is a randomized controlled trial of a community-based contextualized intervention to improve memory and memory-related participation activities. This trial compares the effectiveness of a contextualized memory intervention provided in the participant's home to standard instruction in use of a memory notebook for improving functional memory and community participation. Research Project 2 is a randomized controlled trial of an extended case coordination service to maximize access to and benefit from state vocational rehabilitation services. This trial compares employment outcomes for persons receiving a case coordination intervention to those only receiving a referral for state vocational rehabilitation services. Research Project 3 develops a comprehensive list of symptoms of TBI and, based on this list, creates a classification system for persons with TBI utilizing symptoms, and barriers and facilitators for community integration. This system deploys an innovative, user-friendly, web-based application. Training and technical assistance activities facilitate the widespread dissemination of educational materials on evidence-based strategies for improving function and participation after TBI. Training projects focus on increasing capacity for social networking and on providing education to persons with TBI, caregivers, and treating clinicians, in order to maximize community participation. Training is also conducted in use of the classification system to assist researchers and clinicians in allocating persons with TBI to appropriate treatments. Technical assistance activities are also conducted to improve implementation of training activities and to maximize resulting community integration.

**Disability and Rehabilitation Research Projects**  
California

**National Center for Parents with Disabilities and Their Families**

---

Through the Looking Glass  
2198 Sixth Street, Suite 100  
Berkeley, CA 94710-2204  
tlg@lookingglass.org  
www.lookingglass.org

**Principal Investigator:** Megan Kirshbaum, PhD; Paul Preston, PhD

**Public Contact:** 510/848-1112 (V); Fax: 510/848-4445

**Project Number:** H133A080034

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 08 \$500,000; FY 09 \$500,000

**Abstract:** The National Center for Parents with Disabilities and Their Families targets three national populations: parents with diverse disabilities, family members, and service providers and trainees who have a particularly critical impact on parents. The Center's activities target the most critical issues facing parents with disabilities and their families: custody and parental evaluations; family roles and personal assistance; paratransit; and intervention with parents with cognitive and intellectual disabilities. The overall goal of this project is to improve the quality of life among parents with disabilities and their families. This goal is met by incorporating the project's research, development, training, and technical assistance and dissemination activities into four project objectives. The four project objectives are: (1) increase the national availability of accessible and disability appropriate resources for parents with diverse disabilities and their families; (2) increase knowledge of parenting with a disability among diverse parents, family members, and providers; (3) increase informed practice and informed decisions regarding parenting with a disability among providers; and (4) increase state and local legislative and policy changes to decrease discrimination against parents with disabilities and their children. The Center conducts eight separate research and eight new development projects; provides technical assistance to at least 8,000 parents and providers; conducts focused trainings to 12,000 diverse parents and providers; and nationally disseminates at least 200,000 project materials and products consolidated from Center activities as well as from other NIDRR-funded projects. Center activities are guided by the following basic principles: (1) utility to parents, family members, and service providers; (2) social change to improve the lives of parents with disabilities and their families; (3) consumer involvement as integral to all activities; (4) value of consumer-based knowledge; (5) value of diverse perspectives; (6) use of multiple and accessible formats; and (7) dissemination and utilization as interactive and ongoing processes.

**Disability and Rehabilitation Research Projects**  
Louisiana

**Evacuation Methodology and Understanding Behavior of Persons with Disabilities in Disasters: A Blueprint for Emergency Planning Solutions**

Louisiana State University  
Stephenson Disaster Management Institute  
1103 Patrick F. Taylor Hall  
Baton Rouge, LA 70803  
bgerber@lsu.edu

[www.bus.lsu.edu/students/news/stories/2008.08.25\\_evac\\_method.asp?dept=69](http://www.bus.lsu.edu/students/news/stories/2008.08.25_evac_method.asp?dept=69)

**Principal Investigator:** Brian J. Gerber, PhD

**Public Contact:** 225/578-0238; Fax: 225/578-8741

**Project Number:** H133A080069

**Start Date:** October 01, 2008

**Length:** 24 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 08 \$449,963; FY 09 \$436,016

**Abstract:** This project quantifies and interprets the unique challenges of persons with disabilities and other special needs during emergency/disaster evacuations in order to improve the management of such events. Participating research institutions gathers data on persons with disabilities/special needs who have either recently personally evacuated from an emergency/disaster situation, have been in or proximate to a recent disaster evacuation, or who reside in an area that has not experienced a recent evacuation, but might face a type of hazard that could prompt an evacuation some time in the future. The project gathers data in order to evaluate the current state of evacuation preparedness in the area of special/functional needs by local government and key non-governmental service providers across the United States. The investigators integrate these two data sources to create guidelines that key decision-makers, both governmental and nongovernmental, can use to improve existing evacuation plans to account for the disabilities/special needs public based upon urban, suburban, and rural models. Likewise, the project also produces guidelines for incorporating a disability/special needs element in emergency evacuation training and exercises along with delineating future emergency preparedness educational needs within the individuals with disabilities community. Results and products of the study are disseminated to service providers, emergency managers, first responders, other planners, and policy makers across the United States.

## Disability and Rehabilitation Research Projects

Massachusetts

### A Center on Postsecondary Education for Students with Intellectual Disabilities

---

University of Massachusetts Boston  
Institute on Community Inclusion  
100 Morrissey Boulevard  
Boston, MA 02125  
www.thinkcollege.net

**Principal Investigator:** Debra Hart, PhD; Meg Grigal, PhD 617/590-8082

**Public Contact:** Debra Hart, PhD 617/590-8082

**Project Number:** H133A080042

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 08 \$500,000; FY 09 \$500,000

**Abstract:** This center conducts research and disseminates information on promising practices that support individuals with intellectual disabilities (ID) to access inclusive postsecondary education resulting in improved long-term independent living and employment outcomes. Additionally, the Center addresses the gaps in knowledge about the participation of individuals age 13-26 with intellectual disabilities in postsecondary education programs by: (1) conducting a national survey to collect new national data from postsecondary programs that serve students with ID to identify key characteristics (e.g., recruitment, retention, college course access, use of accommodations) and promising practices of postsecondary education programs at community colleges, vocational-technical schools, and four-year colleges that currently serve students with ID, including dual enrollment programs; (2) conducting a secondary analysis using three existing national longitudinal datasets to determine whether variations in educational, vocational, employment, and independent living outcomes for students with ID are associated with participation in different types of postsecondary education programs; (3) compiling existing and developing new technical assistance materials, including replicable promising practices for postsecondary education institutions that are developing new or expanding existing services and programs for students with ID; and (4) disseminating both new and existing technical assistance and informational materials in partnership with existing training and technical assistance providers, including the NIDRR Research and Dissemination Centers, to all key stakeholders including students with ID and their families. The Institute for Community Inclusion works in collaboration with TransCen, Inc.

**Disability and Rehabilitation Research Projects**  
New York

---

**Asset Accumulation and Economic Self-Sufficiency (AAESS)**

---

Syracuse University  
Office of Sponsored Programs  
113 Browne Hall  
Syracuse, NY 13244

**Principal Investigator:** Michael Morris

**Public Contact:** 202/296-2046; Address: 1667 K St., NW,; Suite 640,; Washington, DC 20006; Fax: 202/296-2046

**Project Number:** H133A080014

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Delores Watkins

**NIDRR Funding:** FY 08 \$300,000; FY 09 \$300,000

**Abstract:** Building upon research conducted by the Asset Accumulation and Tax Policy Project (AATPP), the current project provides understanding of economic status of working age adults with disabilities, and policy and system barriers to asset accumulation and community participation. Two intervention studies contribute individual and system level knowledge impacting asset accumulation, economic self-sufficiency, and community participation of persons with disabilities. Intervention One: Resource, Employment, Assets, and Learning (REAL) opportunity study, is an experimental design building on research in the IRS Benchmark Study of Taxpayers with Disabilities (2006) and longitudinal outcome research findings in AATPP. REAL evaluates the impact of asset building strategies on economic status and community participation of 360 individuals with disabilities during the project in 2 pilot sites. Intervention Two: Building Economic Success Together (BEST) Accounts study, offers a comprehensive menu of accessible, user-friendly, affordable products and services in response to evidence from AATPP. BEST is offered by credit unions in 6 culturally and geographically diverse locations to 1,800 individuals with diverse disabilities and demographics such as age, gender, family, minority status, and recent service disability. Data analysis is used to identify increased use of asset building strategies, reduced dependence on payday and predatory lenders, reduction of debt, changes in economic status, and savings. Thematic analysis of focus groups and interviews produce knowledge on individual and system factors that diminish or facilitate opportunities to advance asset accumulation, self-sufficiency, and community participation measures of social, civic, and economic activities. AAESS continues collaboration with the IRS to design and conduct an updated and extended benchmark study in 2009 to further research on economic status of taxpayers differentiated by disability and demographics to help design future research. The project includes creation and dissemination of asset development and financial literacy curricula to complement other poverty-alleviation strategies.

Disability and Rehabilitation Research Projects  
Oregon

**School Transition & re-Entry Program (STEP): Systematic Hospital-to-School Transition for Students with Traumatic Brain Injury**

---

Western Oregon University  
The Teaching Research Institute  
99 West 10th Avenue, Suite 370  
Eugene, OR 97401  
glanga@wou.edu  
www.tr.wou.edu/STEP/

**Principal Investigator:** Ann E. Glang, PhD

**Public Contact:** 541/346-0594; Fax: 541/346-0599

**Project Number:** H133A060075

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 06 \$300,000; FY 07 \$300,000; FY 08 \$300,000; FY 09 \$300,000

**Abstract:** Due to the absence of effective procedures for transitioning students from hospital to school, many students with traumatic brain injury (TBI) who need specialized services are not identified for special education. This lack of identification can lead to inappropriate services, and perpetuates the lack of awareness of TBI among school professionals. This project utilizes a systematic approach to developing, testing, and disseminating a comprehensive hospital-school transition intervention, called the School Transition & re-Entry Program (STEP). Researchers evaluate the effectiveness of the STEP intervention, which includes referral to a school-based transition specialist, long-term tracking of student performance, and parent advocacy training, in a three-phase research plan. Following the Phase I development period involving focus groups and interviews with parents, hospital staff, and school personnel, and a year-long pilot test (Phase II), the project evaluates the effectiveness of the transition intervention in a multi-site randomized control trial (Phase III).

**Disability and Rehabilitation Research Projects**  
Oregon

**Identification and Reporting of Violence by People with Disabilities**

---

Oregon Health and Science University  
School of Nursing  
3181 SW Sam Jackson Park Road  
Portland, OR 97201  
powersl@pdx.edu; oschwald@pdx.edu  
selfdeterminationohsu.org

**Principal Investigator:** Mary Ann Curry 503/494-8655

**Public Contact:** Mary Oschwald, PhD 503/725-9602; Fax: 503/725-4180

**Project Number:** H133A031724

**Start Date:** December 01, 2003

**Length:** 60 months

**NIDRR Officer:** Joyce Y. Caldwell

**NIDRR Funding:** FY 03 \$300,000; FY 04 \$300,000; FY 05 \$300,000; FY 06 \$300,000; FY 07 \$300,000; FY 08 (No-cost extension though 11/30/2009)

**Abstract:** The purpose of this project is to reduce the prevalence of violence against people with disabilities. People with disabilities are at substantially higher risk for violence, abuse, and criminal victimization than the general population. The identification and reporting of violence typically involves individuals' self-identifying as victims and accessing safety and reporting information and resources, as well as the availability of sensitive and accessible reporting methods. The goal of this project is to improve the identification, reporting, and response to violence against persons with disabilities living in the community by: (1) validating the efficacy of a culturally sensitive approach to promote violence screening, safety behaviors, disclosure, and reporting by women with disabilities; (2) increasing knowledge of the extent to which current crime reporting methods incorporate disability status and accommodation information, and the barriers faced by police jurisdictions across the nation in documenting and facilitating crime reporting by persons with disabilities; and (3) identifying practices and policies that promote and support violence disclosure and reporting by individuals with disabilities.

## Field Initiated Projects (FIPs)

Georgia

### Assessing Safety Risk after Traumatic Brain Injury

---

Shepherd Center, Inc.  
2020 Peachtree Road, NW  
Atlanta, GA 30309  
ron\_seel@shepherd.org

**Principal Investigator:** Ronald T. Seel, PhD

**Public Contact:** 404/387-5625; Fax: 404/350-7596

**Project Number:** H133G080153

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 08 \$199,896; FY 09 \$199,613

**Abstract:** This project develops a standardized, ecologically valid measure of safety risk in persons aged 16 and older who have sustained mild complicated, moderate, or severe traumatic brain injury (TBI). An ecologically sensitive item bank is developed to assess the wide range of potential safety issues that persons with TBI face in everyday living situations. Focus groups are conducted with primary stakeholders including persons with TBI, family caregivers, and service providers to establish content validity. Item Response Theory (IRT) methodologies, specifically Rasch analysis, are used to calibrate items along a hierarchy matching item difficulty to the safety abilities of persons with TBI. Based on Rasch analyses, the safety measure for persons with TBI generates safety risk probability scores on four scales theorized to be causative factors: physical capacity, cognitive capacity, perceived susceptibility to harm (judgment), and self-regulation (impulsivity). Ecological and prognostic validity is established using family journals in which unsafe behavior of persons with TBI is recorded and rated.

## Field Initiated Projects (FIPs)

Illinois

### **Homeless Mentally Ill: Strategies for Maintaining Residential Stability**

College of Health & Rehabilitation Sciences: Sargent College  
Department of Occupational Therapy  
635 Commonwealth Avenue  
Boston, MA 02215  
helfrich@bu.edu  
[people.bu.edu/helfrich/homelessness.pdf](http://people.bu.edu/helfrich/homelessness.pdf)

**Principal Investigator:** Christine A. Helfrich, PhD

**Public Contact:** 617/353-8947; Fax: 617/353-2926

**Project Number:** H133G060180

**Start Date:** December 01, 2006

**Length:** 12 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 06 \$149,998; FY 07 (No-cost extension through 11/30/2008); FY 08 (No-cost extension through 11/30/2009)

**Abstract:** This project implements, evaluates, and disseminates a life skills intervention designed to increase skills necessary for maintaining housing for 230 homeless adults with psychiatric disabilities to prevent their return to the streets, reinstitutionalization, hospitalization, or jail. These skills include room and self-care management, food management, financial management, and safe community participation. This three-year project is conducted in two housing programs: supervised emergency housing and single room occupancy housing with case management. The intervention was developed based on Empowerment Theory, the Transtheoretical Model of Change, Social Learning Theory using a skills training approach, and the Model of Human Occupation. The objective of this intervention is to increase the time an individual remains housed and decrease the evictions that occur secondary to his/her inability to perform the skills and behaviors necessary to maintain housing.

## Field Initiated Projects (FIPs)

Kansas

# Combining Technologies to Maximize Outcomes: Telemedicine and Online Training Program for Parents of Children with Autism

---

University of Kansas  
Schiefelbusch Institute for Life Span Studies  
Juniper Gardens Children's Project  
650 Minnesota Avenue, 2nd Floor  
Kansas City, KS 66101  
lhpowell@ku.edu  
www.jgcp.ku.edu

**Principal Investigator:** Linda S. Heitzman-Powell, PhD

**Public Contact:** 913/321-3143; Fax: 913/371-8522

**Project Number:** H133G060238

**Start Date:** October 01, 2006

**Length:** 36 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 06 \$149,824; FY 07 \$149,965; FY 08 \$149,923; FY 09 (No-cost extension through 9/30/2010)

**Abstract:** This project seeks to address challenges faced by geographically remote families in accessing effective intervention services for their young children diagnosed with an autism spectrum disorder (ASD). In order to address this challenge, the project is developing a program that uses a research-to-practice outreach training model to teach parents of children with an ASD how to implement empirically-based interventions with their children. The development of this program is proceeding across four phases: (1) initial content and system development and informational focus groups; (2) formative evaluation; (3) quasi-experimental assessment and system refinement; and (4) final analysis and preparation for dissemination. In Phase 3, parents of children with autism are using online tutorials to learn general information and concepts related to an intervention or treatment protocol, followed by a telemedicine clinic intervention session. During the intervention session parents practice the techniques discussed in that week's online tutorials with their child while receiving guidance and immediate feedback from trained intervention coaches. Program effectiveness is being evaluated based on level of parental knowledge and skill fluency, child level of disability (e.g. the ICF) and behavior, and reported family quality of life. In addition, participants complete exit surveys and interviews to elicit feedback regarding how the program could be improved and any problems they experienced. Intervention components are introduced to study families in a multiple baseline design. In order to assess the sustainability of the project, following Phase 3, six additional families are recruited to participate in the outreach telemedicine clinic from a community-based telemedicine site (Phase 4).

## Field Initiated Projects (FIPs)

Kansas

# Accommodations and ADA for Post-Secondary Students with Disabilities

---

University of Kansas  
1000 Sunnyside Avenue  
Life Span Institute, Room 4060  
Lawrence, KS 66045-7555  
glen@ku.edu

**Principal Investigator:** Glen W. White, PhD

**Public Contact:** 785/864-4095; Fax: 785/864-5063

**Project Number:** H133G090222

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Joyce Y. Caldwell

**NIDRR Funding:** FY 09 \$199,997

**Abstract:** This project develops an accommodations training technology (ATT) designed to maximize the skills of students with disabilities to advocate for accommodations needed to succeed in postsecondary educational settings. The ATT uses evidence-based research from a recently completed single-subject research study that empirically demonstrated post-secondary students' improvement of their self-advocacy skills and knowledge about their legal rights and responsibilities under the ADA, by participating in a researcher-designed training package. The new program further enhances the previous work by using a state-of-the art interactive computer program that is scaleable and meets the preferences of the target population, coupled with a skills based training component that is both flexible and portable (e.g., hand-held electronic devices via interactive text with graphics, Adobe Flash, Apple Quicktime, enhanced iPod and MP3 media formats). The project goal is to provide postsecondary students with disabilities the knowledge and skills to acquire needed ADA accommodations in postsecondary educational settings. The objectives are: (1) utilize the Consumer Empowered Team participant advisers to review and update current content curriculum and design a facilitator manual; (2) design online components to deliver the ATT model; (3) replicate face-to-face application of the ATT model in Round 1 with six students with disabilities at one university setting. (4) replicate the revised (from Round 1) ATT model in Round 2 with 24 students with disabilities at 2 universities, using online applications and facilitator manual; (5) conduct a pilot test of the finalized (from Rounds 1 and 2) ATT model with 60 students with disabilities at 2 universities; and (6) develop and implement a marketing plan to distribute and publicize the product that results from this development project.

## Field Initiated Projects (FIPs)

Massachusetts

# Instrument to Measure Recovery-Promoting Competence Among Providers Serving Spanish Speaking Mental Health Consumers

---

Boston University  
Sargent College of Health and Rehabilitation Sciences  
Center for Psychiatric Rehabilitation  
940 Commonwealth Avenue West  
Boston, MA 02215-1203  
erogers@bu.edu

**Principal Investigator:** E. Sally Rogers, ScD

**Public Contact:** 617/353-3549; Fax: 617/353-7700

**Project Number:** H133G060071

**Start Date:** November 01, 2006

**Length:** 36 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 06 \$149,735; FY 07 \$149,908; FY 08 \$149,953; FY 09 (No-cost extension through 10/30/2010)

**Abstract:** The purpose of this project is to culturally adapt the Recovery Promoting Relationships Scale (RPRS) for use in four Spanish-speaking cultures (that is, individuals of Mexican, Puerto Rican, Cuban, and Central and Latin American descent). The resulting scale is an intervention blueprint designed to cut across specific disciplines and services, to specify the skills and strategies needed to promote recovery, and to improve the expertise of providers serving Spanish-speaking consumers. This process helps address the critical need for recovery-oriented mental health services that are research based, culturally informed, and grounded in the perspectives of Latinos with psychiatric disabilities. Thus, the goals of this project are: (1) to identify and refine the recovery-oriented competencies required of providers serving mental health consumers of four Spanish speaking cultures; (2) to adapt the RPRS to be culturally relevant to mental health consumers of four Spanish-speaking cultures; (3) to pilot test the psychometric properties of the RPRS; (4) to test the clinical utility of the RPRS; and (5) to systematically develop implications for practice, training of practitioners, and policy, and broadly disseminate the results.

## Field Initiated Projects (FIPs)

Massachusetts

# Development of Measures of Participation and Environment for Children with Disabilities

---

Boston University  
Sargent College of Health and Rehabilitation Sciences  
635 Commonwealth Avenue  
Boston, MA 02215  
wjcoster@bu.edu  
www.bu.edu/kidsworld

**Principal Investigator:** Wendy J. Coster, PhD 617/353-7518

**Public Contact:** 617/353-7518; Fax: 617/353-2926

**Project Number:** H133G070140

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 07 \$195,233; FY 08 \$195,360; FY 09 \$197,023

**Abstract:** This project develops new measures of participation and environment for children and youth with disabilities using input from families and their children with disabilities. The new measures are developed using Item Response Theory (IRT) to ensure that the measures developed are interpretable, provide interval level data for analyses, and are valid for the specified purposes. The project has three major phases. The first phase is a development phase that synthesizes results from prior research on participation and environment and analysis of the ICF with information derived from focus groups of caregivers and children and youth with a variety of disabilities to identify meaningful domains and item content areas for the new measures. Initial item pools are developed, subjected to expert review and cognitive testing, and then field-tested with both caregiver and child respondents to identify any significant problems with scaling or content coverage using IRT methods. After revisions based on these results, a larger field study is conducted using both paper and web-based survey formats to examine the properties of the revised item pools. The ultimate aim is to develop large pools of participation and environment items that can support survey and computer-adaptive testing measures that are linked on a common scale. This approach allows flexible development of alternative forms whose derived scores can be compared directly with one another, e.g. so that results from different studies are more easily compared. The present project develops and tests (using simulation studies) short survey forms from the initial pools for immediate use. The research is a collaborative effort between experienced investigators in the United States and Canada. This collaboration facilitates development of broadly applicable measures by taking into account potential differences in environment and participation across very different health care delivery systems.

## Field Initiated Projects (FIPs)

Massachusetts

### Life Skills: Transitioning from Homelessness and Isolation to Housing Stability and Community Integration

---

Boston University  
Sargent College of Health and Rehabilitation Sciences  
Department of Occupational Therapy  
635 Commonwealth Avenue  
Boston, MA 02215  
helfrich@bu.edu  
people.bu.edu/helfrich/

**Principal Investigator:** Christine A. Helfrich, PhD

**Public Contact:** 617/353-8947; Fax: 617/353-2926

**Project Number:** H133G090046

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Pimjai Sudsawad, ScD

**NIDRR Funding:** FY 09 \$199,998

**Abstract:** This randomized control trial implements, evaluates, and disseminates a life skills intervention to increase skills necessary for achieving housing stability and community participation and living for 150 homeless adults with disabilities. These skills include home and self-care management, food management, financial management, and safe community participation. The objectives of this study are to: (1) evaluate the ability of the intervention to improve housing stability and increase participants' level of community integration, including the steps they take toward employment and self-sufficiency; (2) identify the feasibility issues inherent in delivering interventions to this highly vulnerable population; and (3) train agency staff and peer mentors to enable project sustainability. This three-year project is a partnership between Boston University, HomeStart, the Pine Street Inn, and the National Center for Family Homelessness (NCFH). These Boston-area partner agencies offer Housing Search, Housing Stabilization, and Housing First programs, which provide a diverse set of conditions for implementation evaluation. The project uses a manualized intervention that was developed for a previous project with homeless adults with mental illness and is based on Empowerment Theory, Social Learning Theory, and the Model of Human Occupation.

Field Initiated Projects (FIPs)  
Michigan

**The Effects of a Bicycle Training Intervention on Health, Physical Activity, Sleep, and Community Participation in Youth with Down Syndrome and Autism Spectrum Disorders**

---

University of Michigan  
Center for Motor Behavior and Pediatric Disabilities  
1402 Washington Heights, 3126 OBL  
Ann Arbor, MI 48109-2013  
ulrichd@umich.edu  
[www.kines.umich.edu/research/cmbpd.html](http://www.kines.umich.edu/research/cmbpd.html)

**Principal Investigator:** Dale Ulrich, PhD; Joseph Hornyak, MD  
**Public Contact:** 734/615-1904; Fax: 734/647-2808

**Project Number:** H133G090006

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** Margaret Campbell, PhD

**NIDRR Funding:** FY 09 \$195,188

**Abstract:** This 3 year study involves a randomized trial design to determine the effects of an individualized bicycle training intervention on functional performance, time spent in moderate to vigorous physical activity, patterns of sleep, and community participation and integration of 160 youth with Down Syndrome (DS) and autism spectrum disorder, aged 9-18 years. Participants who are randomly assigned to the Experimental group (EXP) receive the bicycle training during the first year while the Control group (CON) does not receive the bicycle training until the second year but receives alternative educational or community-based lessons while they wait. After receiving their bicycle training intervention, participants in the EXP and CON groups are monitored for 24 months to help determine the frequency of bicycle riding, environmental factors that influence the frequency of bike riding, the frequency of falls, their pattern of night time sleep, the amount of time they spend in sedentary, light, moderate, and vigorous physical activity, self and parent perceptions of their riding skill, with whom they ride, where in the community they ride their bicycle, and in what other activities they participate, in their community. At entry into the study, none of the participants will be able to ride a two-wheel bicycle.

**Field Initiated Projects (FIPs)**  
Michigan

## **Work Environment and Quality of Life Outcomes: A Comparison of the Experiences of Formal and Informal Caregivers of Persons with Spinal Cord Injuries**

---

Wayne State University  
Rehabilitation Institute of Michigan  
Research Department  
261 Mack Boulevard, Room 520  
Detroit, MI 48201  
cduggan@dmc.org

**Principal Investigator:** Colette Duggan, PhD; Daniela Ristova-Trendov, MD; 313/745-1070  
**Public Contact:** 313/745-9735; Fax: 313/745-1197

**Project Number:** H133G060267

**Start Date:** December 01, 2006

**Length:** 36 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 06 \$149,989; FY 07 \$149,950; FY 08 \$149,994

**Abstract:** For many persons with a spinal cord injury (SCI), assistance with activities of daily living and instrumental activities of daily living is crucial to their long-term survival, independence, and productivity. The goal of this qualitative investigation is to gain a better understanding of the work environments of SCI caregivers and the micro-processes at work that produce impacts on caregivers' appraisals of burden, stress, physical health, and psychosocial well-being. The objective of the study is to document from a contextual life perspective, the linkages between the specific demands of caregiving and its health consequences. The study targets three groups of SCI caregivers: unpaid (family) caregivers, paid caregivers hired directly by the consumer, and paid employees of home health care agencies. The specific aims of the study are to: (1) conduct a comparative study of these three caregiver groups; (2) analyze this information with specific attention to the connections between aspects of the work environment, stress, physical health, and psychosocial well-being, and (3) disseminate this information to SCI consumers and their families, rehabilitation researchers, and clinicians, and to agencies charged with the responsibility of establishing health care policies.

## Field Initiated Projects (FIPs)

Montana

### CIL-Based Abuse Education and Safety Planning Program for Women with Disabilities

---

University of Montana  
The University of Montana Rural Institute:  
A Center for Excellence in Disability Research, Education and Services  
52 Corbin Hall  
Missoula, MT 59812-7056  
rhughes@ruralinstitute.umt.edu

**Principal Investigator:** Rosemary Hughes, PhD  
**Public Contact:** 406/243-2898; Fax: 406/243-4730

**Project Number:** H133G070196

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Joyce Y. Caldwell

**NIDRR Funding:** FY 07 \$199,996; FY 08 \$199,985; FY 09 \$199,987

**Abstract:** The purpose of this project is to develop and evaluate an accessible, consumer-driven abuse education and safety planning program for women with disabilities. The conceptual model for the program identifies knowledge about safety planning, self-efficacy, and social connectedness as three protective factors that influence safety behaviors and safety itself. Drawing on both the strengths of traditional, community-based domestic violence and sexual assault programs and the cumulative research findings on the dynamics and prevalence of violence against women with disabilities, this program offers an integrated approach for meeting the gender-specific and disability-sensitive prevention needs of women with disabilities. The intervention is implemented with women with disabilities recruited from the ten centers of independent living (CILs) and randomly assigned to a group that will participate in either the on-going CIL services plus the abuse education and safety planning program, or to a group receiving the on-going CIL services only. The program consists of six 2.5-hour weekly sessions using a curriculum that includes topics such as self-advocacy, nature of abuse and violence, safety planning strategies, and healthy relationships. All sessions include self-efficacy training, goal-setting, problem-solving, and interactive activities to encourage mutual support. A CIL staff member from each site participates in a comprehensive leader training program conducted by the project personnel. This is the first randomized, controlled evaluation of a violence prevention group program designed to meet the unique needs of women with disabilities.

## Field Initiated Projects (FIPs)

New York

# Controlled Study of Affect Recognition Training for Individuals with Traumatic Brain Injury

---

University at Buffalo  
The State University of New York  
Department of Psychiatry  
G96 Farber Hall; 3435 Main Street  
Buffalo, NY 14214

**Principal Investigator:** Barry S. Willer, PhD; Machiko Tomita, PhD

**Public Contact:** Barry S. Willer, PhD 716/829-2300; Fax: 716/829-2300

**Project Number:** H133G080043

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 08 \$200,000; FY 09 \$200,000

**Abstract:** The goal of this project is to compare the effects of two innovative training programs on improving various aspects of emotion recognition in persons with traumatic brain injury (TBI), through a randomized controlled trial. It has been demonstrated that individuals with TBI often have difficulty using facial expressions and social contexts to determine how someone is feeling. It is apparent that an impairment of this nature could considerably influence the behavioral and social outcomes for individuals with TBI. In this study, participants are randomly assigned to one of three groups: Facial Affect Recognition training, Stories of Emotional Inference training, or (no treatment) Computer Training Group. Training occurs three times a week for three weeks. Specific outcome measures include: (1) facial affect recognition (static photos); (2) affect recognition and social inference from video vignettes; (3) emotional inference for hypothetical situations; (4) level of empathy; and (5) social behavior. Cognitive performance and level of depression are covariates. In addition, vocal affect recognition (audiotape) and community integration are also explored.

## Field Initiated Projects (FIPs)

New York

### Direct vs. Interpreted Administration of the SPAT

---

University of Rochester School of Medicine  
Deaf Wellness Center  
300 Crittenden Boulevard  
Rochester, NY 14642  
robert\_pollard@urmc.rochester.edu  
www.urmc.rochester.edu/dwc/index.htm

**Principal Investigator:** Robert Pollard, PhD

**Public Contact:** 585/275-3544; Fax: 585/273-1117

**Project Number:** H133G090189

**Start Date:** October 01, 2009

**Length:** 24 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 09 \$101,484

**Abstract:** The goal of this two-year study is to determine whether direct administration of the Signed Paired Associates Test (SPAT) by sign-fluent examiners yields test results that are equivalent to administration by examiners who communicate through a qualified sign language interpreter. A second objective is to investigate the influence of age on SPAT performance, which has not yet been done and would aid the design of later studies seeking to establish-reliable age norms. The study design allows researchers to control for age-related variation in SPAT performance and determine whether the results of SPAT direct administration versus SPAT interpreter-mediated administration vary as a function of age. Finally, the project statistically estimates the relative effects of interpreter use per se versus the use of particular interpreters on SPAT performance. SPAT, developed through NIDRR funding, is the first psychological test of verbal (i.e., language-based) learning and memory designed for use with deaf individuals who communicate in sign language.

## Field Initiated Projects (FIPs)

North Carolina

# Improving Representative Payeeship for People with Psychiatric Disabilities and their Families

---

University of North Carolina at Chapel Hill  
School of Medicine  
Department of Psychiatry  
Forensic Psychiatry Program  
Campus Box 7160  
Chapel Hill, NC 27599  
eric.elbogen@unc.edu

**Principal Investigator:** Eric Elbogen, PhD

**Public Contact:** 919/966-5540

**Project Number:** H133G070072

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 07 \$198,669; FY 08 \$199,187; FY 09 \$169,372

**Abstract:** This project evaluates a pilot-tested, stakeholder-informed intervention that is grounded in principles of psychiatric rehabilitation and encourages consumers with psychiatric disabilities and their family members to collaborate within the representative payee arrangement. Representative payees, mostly family members, manage Social Security Administration funds for more than one million people with psychiatric disabilities. Although studies show payeeship can be used coercively, foster dependency, reduce work incentives, and lead to family conflict and even violence, there has been little systematic research on how to lower these significant barriers to community integration. This project tests the Collaborative Representative Payeeship intervention, a brief, four-session intervention that aims to facilitate a cooperative consumer-payee relationship, increase accurate knowledge about representative payeeship, promote collaborative money management and effective budgeting, and prepare mutually developed plans for carrying out the payeeship in the future. The long-term goal is to promote recovery among adults with psychiatric disabilities who have payees by reducing downsides associated with what has been called “the nation’s largest guardianship system.”

## Field Initiated Projects (FIPs)

North Carolina

# Daily Living and Community Skills Video Game for Children with Developmental Disabilities

---

The Sandbox Learning Company  
18801 Nautical Drive, Suite 206  
Cornelius, NC 28031

**Principal Investigator:** Amy Maguire

**Public Contact:** 800/704-7815; Fax: 877/562-2923

**Project Number:** H133G080151

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 08 \$199,175; FY 09 \$199,765

**Abstract:** This project develops and evaluates a simulation video game to teach children with developmental disabilities, including autism and intellectual disabilities, skills for independence. The project teaches chained tasks in an engaging and effective game format. This system provides an innovative and inexpensive way to increase opportunities for instruction while providing correction procedures, giving multiple exemplars, monitoring progress, and including clips from each student's community. This project expands on the preliminary findings in a Phase I study to develop an easy to use, economical, daily living skills game which brings real world experiences and treatment into the classroom and home. Project goals include: (1) to expand on the successful techniques demonstrated in preliminary studies to create a fully-functional game with 24 skills, and (2) to verify through a single subject design, specifically multiple probes across behaviors, that the simulation video game alone teaches the skills to 24 children in elementary and middle school with developmental disabilities. A team of educational experts, technology experts, and parents of children with disabilities collaborate on the project to ensure the skills presented in the game are truly beneficial to individuals with developmental disabilities and the technology used will have the greatest reach.

## Field Initiated Projects (FIPs)

Ohio

### Teen Online Problem Solving for Pediatric Brain Injury

---

Children's Hospital Medical Center  
Pediatric Rehabilitation  
3333 Burnet Avenue  
MLC 4009  
Cincinnati, OH 45229-3039  
shari.wade@cchmc.org

**Principal Investigator:** Shari L. Wade, PhD 513/636-7480

**Public Contact:** Fax: 513/636-7360

**Project Number:** H133G050239

**Start Date:** October 01, 2005

**Length:** 36 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 05 \$149,629; FY 06 \$148,735; FY 07 \$149,569; FY 08 (No-cost extension through 9/30/2009); FY 09 (No-cost extension through 9/30/2010)

**Abstract:** Traumatic brain injury (TBI) in adolescents is a significant stressor for both the teen and his or her family. Existing interventions are rare and distance and finances can restrict access to treatment. The current project addresses these needs by developing and piloting an innovative online intervention for adolescents with TBI: Teen Online Problem Solving (TOPS). The TOPS intervention is adapted, based on input from teens with TBI, from a recently developed online program for school-aged children with TBI and their families. The project tests the TOPS intervention in a randomized trial comparing the effects of usual care to TOPS on the following outcomes: (1) adolescent problem-solving and communication skills; (2) adolescent emotional/behavioral adjustment; (3) parent burden and distress; and (4) parent-teen conflict. TOPS makes use of emerging technology to address the multifaceted needs of teens following TBI with the goal of improving the teen's social and emotional functioning, thereby enabling him or her to better negotiate the complex transition to adulthood and independent functioning.

## Field Initiated Projects (FIPs)

Ohio

# Web Therapy to Improve Outcomes After Traumatic Brain Injury in Young Children

---

Children's Hospital Medical Center  
Pediatric Rehabilitation  
3333 Burnet Avenue  
MLC 4009  
Cincinnati, OH 45229-3039  
shari.wade@cchmc.org

**Principal Investigator:** Shari L. Wade, PhD

**Public Contact:** 513/636-7480; Fax: 513/636-7360

**Project Number:** H133G060167

**Start Date:** December 01, 2006

**Length:** 36 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 06 \$149,379; FY 07 \$147,834; FY 08 \$146,762

**Abstract:** This project adapts online family problem solving for families of young children with traumatic brain injury (TBI) (I-InTERACT: Internet-based Interacting Together Everyday - Recovery After Childhood TBI) and compares it to an Internet resource comparison group (IRC) in a randomized clinical trial. Participants include families of 40 children, aged 3-8 years, who experienced a moderate to severe TBI 1-24 months prior to study participation. In I-InTERACT, a trained counselor guides families through a six-month structured online parenting skills-building program via a website and one-on-one videoconference sessions. The IRC group receives computers, high-speed Internet access, and links to brain injury information and resources, but not the I-InTERACT website content or synchronous sessions. Primary outcomes, to be assessed pre- and post-treatment, include parenting behaviors (e.g., warmth, responsiveness, and criticism) and parent-child communication. Secondary outcomes include child behavior problems and parent psychological distress. The overarching goal of this project is to reduce the risk of long-term behavioral problems and disability in young children following TBI by equipping parents with increased coping and parenting skills in a cost effective fashion.

## Field Initiated Projects (FIPs)

Ohio

### Developing College Campuses as Transition Settings for Students with Severe and Multiple Disabilities Aged 18-21

---

Kent State University  
College and Graduate School of Education, Health & Human Services  
Educational Foundations and Special Programs  
405 White Hall  
Kent, OH 44242

**Principal Investigator:** Robert Flexer, PhD

**Public Contact:** 330/672-0584; Fax: 330/672-2512

**Project Number:** H133G080158

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 08 \$199,973; FY 09 \$199,871

**Abstract:** This project is designed to address need for sustainable, community-based programs for students with severe and multiple disabilities (SMD) aged 18-21 by using the college campus as a transition setting. It also addresses the need for SMD transition professionals to obtain skills in the areas of person-centered planning, community partnering, and interagency collaboration. Students with SMD are enrolled in a college-level continuing education class on life planning provided by Kent State's Career Services Center. A university instructor directs this class, and collaborating SMD professionals and Kent State students receive service learning credits for providing person-centered planning and individualized campus activities for the participating students with SMD. These planning and campus activities are coordinated with students' individual education and employment plans (IEPs and IPEs, respectively). Students with SMD are also enrolled in at least one college-level class each semester to assure that they have access to all of Kent State's services including career planning, health and wellness, student employment, extracurricular activities, and life-long learning opportunities. To achieve these outcomes, project staff pursue five objectives: (1) develop college classes for 30 students with SMD that engage practicing and prospective transition professionals in their life and career planning; (2) develop and implement daily campus activities for 30 students with SMD based on their life plans; (3) engage students with SMD, their teachers, university faculty, and other transition stakeholders in evaluating, refining, and supporting this model; (4) develop materials for replication of this model; and (5) disseminate and replicate this project at other universities.

## Field Initiated Projects (FIPs)

Oregon

### **Development of a Safety-Planning Tool for Men with Disabilities**

---

Portland State University  
Regional Research Institute  
P.O. Box 751  
Portland, OR 97201  
oschwald@pdx.edu

**Principal Investigator:** Mary Oschwald, PhD

**Public Contact:** 503/725-9602

**Project Number:** H133G070190

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Joyce Y. Caldwell

**NIDRR Funding:** FY 07 \$200,000; FY 08 \$200,000; FY 09 \$199,999

**Abstract:** In order to plan for safety, men with disabilities (MWD) need to be aware of options and have access to responsive community resources that support healing, support independence, and assist with the reporting of violence. The purpose of this project is to develop a gender-appropriate Audio Computer-Assisted Self-Interview (A-CASI) to ensure MWD have the skills necessary for effective safety planning. The major goals of the project are to: (1) work closely with MWD to identify safety-planning options for dealing with abuse; and (2) develop and pilot an A-CASI Safety-Planning Tool that builds upon current research findings on the abuse experiences of men with disabilities and previous development of a similar A-CASI program for women with disabilities. The project is conducted by the Regional Research Institute at Portland State University in collaboration with The Rural Institute at University of Montana.

**Field Initiated Projects (FIPs)**  
Oregon

---

**Parent-Infant Interaction Project (PIIP)**

---

Portland State University  
Graduate School of Education; SPED  
P.O. Box 751  
Portland, OR 97207  
munsonl@pdx.edu

**Principal Investigator:** Leslie J. Munson, PhD; Ruth Falco, PhD; David Allen, PhD

**Public Contact:** Leslie J. Munson, PhD 503/725-4687; Fax: 503/725-5599

**Project Number:** H133G080132

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 08 \$199,945; FY 09 \$199,950

**Abstract:** The Parent-Infant Interaction Project (PIIP) develops an evidence-based curriculum for implementation by parents with intellectual disabilities and their professional or paraprofessional coaches within natural environments to enhance parent-infant interaction and child development. Goals of PIIP include: (1) develop a research-based curriculum, coaching model, and training materials for use by parents with intellectual disabilities and their coaches in a collaborative process to enhance the parent-infant relationship and nurture child development; (2) conduct single subject studies of the effects of PIIP coaching model, curriculum, and training materials, including multiple-baseline design studies across goals and the collection of additional qualitative data; and (3) field-test and evaluate the coaching model, curriculum, and training materials through a multi-method study across three different types of early childhood/parent support programs. Partners in PIIP include Early Head Start and Early Intervention/Early Childhood Special Education, as well as a program providing supports for parents with intellectual disabilities. The PIIP Coaching Model incorporates innovative strategies and applies technology that is accessible to individuals with intellectual disabilities. Innovative strategies include a model for coaching that focuses on self-determination and empowerment of parents as advocates and decision-makers for themselves and their child. The Infant-Caregiver Interaction Scale provides a tool to guide collaborative observation, goal-setting, and continuous feedback for parents and their coaches. The project develops accessible technology, including a DVD of examples of interaction activities with video-modeling, for use in coaching parents as they learn strategies to enhance parent-infant interaction within daily play activities. Strategies for planning individualized accommodations, such as easy-reading/picture activity schedules and menus, audio prompts, social stories, and self-management systems, to address parent-child needs are included in the curriculum.

## Field Initiated Projects (FIPs)

South Carolina

### **Investigating Environmental Factors Affecting Community Integration**

University of South Carolina  
Department of Psychology  
1512 Pendleton Street  
Columbia, SC 29208  
kloos@sc.edu

**Principal Investigator:** Bret Kloos, PhD

**Public Contact:** 803/777-2704; Fax: 803/777-9558

**Project Number:** H133G090036

**Start Date:** August 16, 2009

**Length:** 36 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 09 \$199,962

**Abstract:** This project examines environmental factors that can promote or impede participation in community life for persons with psychiatric disabilities who live independently. While recent research has documented how individual factors can affect integration (e.g., participation in activities, feelings of belonging), relatively little is known about the community-based factors that can affect community integration for persons with mental illness. The study has three specific aims: (1) document the range of housing and neighborhood environment conditions for persons with psychiatric disabilities who live in their own dwelling without resources from supported housing; (2) develop and test a framework of environmental factors that can promote or impede community integration across four domains: physical, social, psychological, and opportunities for integration; and (3) advance methodology for community integration research by (a) testing competing measures of physical, social, psychological integration, and integration opportunities, and (b) using Geographic Information Systems to facilitate analyses of environmental factors. This project addresses the gap in knowledge about environmental factors and integration by investigating how (a) housing conditions, (b) neighborhood conditions, (c) interpersonal relationships tied to housing, and (d) census indicators of community composition may affect community integration efforts of persons with psychiatric disabilities.

## Field Initiated Projects (FIPs)

Texas

# Outpatient Social Skills Training for Distressed Adolescent Burn Survivors

---

University of Texas Medical Branch  
815 Market Street  
Galveston, TX 77550  
pblakene@utmb.edu

**Principal Investigator:** Jennifer L. Perry 409/770-6718

**Public Contact:** 409/770-6718; Fax: 409/770-6718

**Project Number:** H133G050079

**Start Date:** October 01, 2005

**Length:** 36 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 05 \$150,000; FY 06 \$150,000; FY 07 \$150,000; FY 08 (No-cost extension through 12/31/2009)

**Abstract:** Previous studies suggest that a significant number of survivors of pediatric burn injuries have a diminished quality of life as young adults. Based on social learning theory and supported by empirical data, social skills deficits have been identified as a major impediment to maximum psychosocial adjustment for many who have survived serious burn injury; this deficit is a particular handicap as the child progresses through adolescence. A pilot study suggests that a four-day, intensive, residential social skills training program was of benefit to troubled teen burn survivors even one year after the training program was completed. The residential format, however, is expensive and impractical. This project (1) cross-validates previous findings that a social skills training program is beneficial, i.e. results in improved social competence and/or diminished behavioral problems, at one-year post-intervention; and (2) tests the hypothesis that beneficial effects can be maintained or amplified by modifying the format of the training to a schedule that more closely resembles the usual outpatient clinical schedule. The goal of this project is to develop and validate an efficient and relatively inexpensive intervention that can be utilized not only by burn-care teams but by health-care professionals in other specialties that are concerned with assisting adolescents who are stigmatized by marred appearance or functional impairment related to a medical condition.

## Field Initiated Projects (FIPs)

Texas

### Development of an Internet-Based Self-Esteem Intervention for Women with Disabilities

---

Baylor College of Medicine  
Center for Research on Women with Disabilities  
1475 West Gray, Suite 165  
Houston, TX 77019  
[www.bcm.edu/crowd/](http://www.bcm.edu/crowd/)

**Principal Investigator:** Margaret A. Nosek, PhD

**Public Contact:** 713/523-0909; Fax: 713/523-0466

**Project Number:** H133G080042

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 08 \$200,000; FY 09 \$200,000

**Abstract:** This project uses an innovative, Internet-based technology called SecondLife, a 3-D, multi-user virtual environment, to deliver self-esteem enhancement interventions to women with disabilities. Project objectives include: (1) reviewing and refining previous self-esteem curricula; (2) developing and testing a methodology to teach participants to navigate SecondLife, and interact with other individuals using real-time voice dialogue; and (3) converting the self-esteem enhancement intervention into a format that uses real-time voice dialogue group interactions in SecondLife, supplemented with on-screen information and illustrations. This Internet-based intervention allows people with disabilities to access secure systematic online health promotion programs designed to increase ability to self-manage chronic conditions and disabilities, achieve improved health and mental health outcomes, and ultimately achieve full participation in their communities.

Small Business Innovation Research (SBIR), Phase II  
Oregon

**ADL Access: A Cognitively Accessible Software Application for  
Augmented Self-Management of Activities of Daily Living**

---

Assistech Systems, LLC  
99 West 10th Avenue, Suite 397  
Eugene, OR 97401  
tkeating@eugeneresearch.org

**Principal Investigator:** Thomas Keating, PhD

**Public Contact:** 541/342-3763; Fax: 541/342-4319

**Project Number:** H133S090138

**Start Date:** October 01, 2009

**Length:** 24 months

**NIDRR Officer:** Delores Watkins

**NIDRR Funding:** FY 09 \$249,821

**Abstract:** Phase II of this project continues the development of an intelligent computer-based task management application to augment the functional cognitive ability of individuals with disabilities in a community living setting who cannot use text-based and complicated commercial personal management applications. The computer-based application is unique in that it is cognitively accessible and includes intelligent features for context-aware task tracking. Users are able to manually enter data on the accomplishment of personal care and household management tasks. The application also integrates data on task accomplishment that are provided remotely by caregivers and by residential sensor networks, often referred to as “smart homes.” In either case, the user benefits from augmented self-management ability. The goal is to produce a final product that is a research-tested, commercially deployable software application with components for use on desktop, mobile, and Web platforms, enabling individuals with cognitive disabilities to use innovative information technology for increased and effective self-management.

## Disability Demographics

---

The ultimate goal of NIDRR’s disability demographics effort is to generate new information that can be used by individuals with disabilities, service providers, policymakers, and others working to identify and eliminate disparities in employment, participation and community living, and health and function. NIDRR has long funded studies that mine data to address the full range of social, health, and economic facets of disability and that compare findings across data sources. There are significant correlates with disability, such as aging; and there are a variety of links between disability and other factors, including culture, race, and ethnicity. NIDRR also nurtures methodological work that addresses identified gaps in data, such as the sparse measurement of the interface between individual and environment.

## Contents

Rehabilitation Research and Training Centers (RRTCs) .....	3
Field Initiated Projects (FIPs) .....	7



Rehabilitation Research and Training Centers (RRTCs)  
Illinois

**Rehabilitation Research and Training Center on Measuring  
Rehabilitation Outcomes and Effectiveness**

---

Feinberg School of Medicine  
Northwestern University  
Center for Rehabilitation Outcomes Research  
Rehabilitation Institute of Chicago  
345 East Superior Street  
Chicago, IL 60611  
a-heinemann@northwestern.edu  
[www.ric.org/research/centers/cror/index.aspx](http://www.ric.org/research/centers/cror/index.aspx)

**Principal Investigator:** Allen W. Heinemann, PhD 312/238-2802

**Public Contact:** Trudy Mallinson, PhD 312/238-1623; Fax: 312/238-2383

**Project Number:** H133B040032

**Start Date:** December 01, 2004

**Length:** 60 months

**NIDRR Officer:** Phillip Beatty, PhD

**NIDRR Funding:** FY 04 \$700,000; FY 05 \$700,000; FY 06 \$700,000; FY 07 \$700,000; FY 08 \$700,000; FY 09 (No-cost extension through 11/30/2009)

**Abstract:** The purpose of this RRTC is to provide national leadership on the functional assessment, outcomes, and health policy issues facing the medical rehabilitation community and the diverse consumers it seeks to serve. The Center conducts research; hosts forums for discussion; publishes in rehabilitation, health policy, and consumer literature; trains researchers in rehabilitation-focused health services research; and disseminates information to diverse consumer, provider, and academic audiences. The RRTC's research seeks to (1) enable comparison of functional status measures across post-acute settings so information can be provided to consumers and other rehabilitation stakeholders about the outcomes and effectiveness of various post-acute care settings; (2) develop an innovative measure of community participation in a meaningful, reliable, and valid manner in order to better describe the long-term outcomes of rehabilitation services; (3) increase the efficiency of outcome data collection so more resources can be directed to patient care; and (4) examine how format and presentation style influences patient understanding of rehabilitation quality outcome indicators in order to provide information in ways that are helpful for consumers when selecting rehabilitation services. The project uses recent developments in item response theory, computer adaptive testing, and stakeholder input in test development, outcomes reporting, and quality indicator reporting. The expected outcomes are a rational basis for provision of rehabilitation services in post-acute care settings, increased efficiency of data collection, a better measure of community participation, and outcome reporting that is responsive to stakeholder needs. Dissemination activities include post-graduate and post-doctoral training opportunities, conferences, and a website that provides information on measurement of rehabilitation outcomes across the continuum of post-acute settings.

Rehabilitation Research and Training Centers (RRTCs)  
Illinois

**Rehabilitation Research and Training Center on Improving  
Measurement of Medical Rehabilitation Outcomes**

---

The Rehabilitation Institute Research Corporation  
Center for Rehabilitation Outcomes Research  
345 East Superior Street  
Chicago, IL 60611  
a-heinemann@northwestern.edu

**Principal Investigator:** Allen W. Heinemann, PhD  
**Public Contact:** 312/238-2802; Fax: 312/238-4572

**Project Number:** H133B090024

**Start Date:** October 01, 2009

**Length:** 60 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 09 \$850,000

**Abstract:** This project focuses on combining innovative measurement, data collection, and reporting methods with practical concerns for usability, implementation, and multi-user communication. Measurement of the cognitive and environmental factors affecting participation is hampered by instruments that are not tailored appropriately to persons with disabilities or for use in time-pressed clinical settings. This project focuses on persons with traumatic brain injury, spinal cord injury, and stroke because these groups experience complex cognitive, physical, sensory, and emotional impairments that limit access to and use of standardized test protocols. Specific project goals include: (1) increasing the accessibility of measures of cognitive function for use in rehabilitation settings so that consumers' needs and outcomes are documented; (2) examining the reliability, validity, and sensitivity of measures of cognitive function for persons with disabilities within major item banks including the NIH Toolbox, the Executive Function Performance Test, NeuroQOL, TBI-QOL, SCI-QOL and SCI-CAT projects; (3) evaluating and refining measures of barriers and facilitators of community participation enabling better evaluation of the outcomes of rehabilitation services; (4) utilizing the large set of data to examine the validity of the cognitive items on the Continuity and Record Evaluation Tool, a standardized patient assessment instrument developed by the Centers for Medicare and Medicaid Services; and (5) evaluating the extent to which the International Classification of Functioning, Disability, and Health (ICF) represents disablement characteristics by mapping instruments collected as part of project activities to concepts within the ICF. This RRTC conducts research; hosts forums for discussion; publishes in the rehabilitation science, health policy, and consumer literature; trains new researchers in rehabilitation-focused health services research; and disseminates information to diverse scientific, clinician, consumer and policymaker audiences.

Rehabilitation Research and Training Centers (RRTCs)  
New York

**Rehabilitation Research and Training Center on Demographics and  
Statistics**

---

Cornell University  
Ives Hall, Room 331  
Ithaca, NY 14853  
smb23@cornell.edu  
www.disabilitystatistics.org

**Principal Investigator:** Harry Katz, PhD; Susanne Bruyère, PhD; Richard Burkhauser, PhD; Melissa Bjelland, PhD; 607/255-9536

**Public Contact:** Susanne Bruyère, PhD 607/255-9536 (V); 607/255-2891 (TTY); Fax: 607/255-3274

**Project Number:** H133B031111

**Start Date:** December 01, 2003

**Length:** 60 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 03 \$750,000; FY 04 \$750,000; FY 05 \$750,000; FY 06 \$750,000; FY 07 \$750,000; FY 08 (No-cost extension through 11/30/2009)

**Abstract:** The RRTC on Demographics and Statistics (Cornell StatsRRTC) bridges the divide between the sources of disability data and the users of disability statistics. The project conducts research exploring the reliability of existing data sources and collection methods, and studies the potential to improve current and future data collection efforts. In addition, the project utilizes existing data sources to provide a comprehensive and reliable set of statistics, and increase access to and understanding of how statistics can be used effectively to support decision making. Cornell StatsRRTC works with key organizations to determine their needs and helps them maximize the use of disability statistics in their ongoing efforts to improve the lives of people with disabilities and their families. As members of the Cornell StatsRRTC, the American Association of People with Disabilities, the Center for an Accessible Society, and InfoUse provide vital expertise and resources needed to reach the users of disability data and statistics. The Cornell StatsRRTC includes researchers from Cornell University, Mathematica Policy Research, the Urban Institute, and the Institute for Matching People and Technology, all of which bring extensive expertise in working with and creating sources of disability data.

## Rehabilitation Research and Training Centers (RRTCs)

New York

### Rehabilitation Research and Training Center on Disability Statistics and Demographics

---

CUNY Research Foundation  
695 Park Avenue  
New York, NY 10065  
ecardoso@hunter.cuny.edu

**Principal Investigator:** John O'Neill, PhD; Elizabeth Cardoso, PhD; 212/772-4736

**Public Contact:** 212/772-4736; Fax: 212/772-5188

**Project Number:** H133B080012

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 08 \$850,000; FY 09 \$850,000

**Abstract:** The Rehabilitation Research and Training Center on Disability Statistics and Demographics (StatsRRTC) facilitates evidence-based decision making in many different service and policy arenas to benefit persons with disabilities, leading to improved education and employment outcomes.

StatsRRTC is a collaborative effort that brings together the lead investigators from three current RRTCs: the StatsRRTC, Employment Service System RRTC, and Employment Policy RRTC; and partners them with leaders in the disability advocacy community from the American Association of People with Disabilities and leaders in vocational rehabilitation from the Council of State Administrators of Vocational Rehabilitation. Project activities include: (1) producing a set of guides to and meta-analyses of existing survey and administrative data sources; (2) conducting experiments to test alternative survey methods; (3) expanding and distributing the Annual Disability Statistics Compendium; (4) expanding and revising the Source Guide for Surveying People with Disabilities; (5) providing an information and referral technical assistance service; (6) providing stylized statistical estimates and methodological consulting for key stakeholders as a follow-up to outreach and training activities; and (7) conducting training designed to build capacity among consumers and within the vocational rehabilitation system and other support services systems related to data collection and analysis, secondary data analysis, and reporting processes. Project goals include: improving the knowledge of and access to existing data; generating the knowledge needed to improve future disability data collection; and strengthening connections between the data from and regarding respondents, researchers, and decision makers.

## Field Initiated Projects (FIPs)

Colorado

# Public Spending for Disability in the United States: A Comparative, Longitudinal Study

---

University of Colorado Health Sciences Center  
3825 Iris Avenue, Suite 200  
Boulder, CO 80303  
braddock@cu.edu

**Principal Investigator:** David L. Braddock, PhD

**Public Contact:** 303/492-0639

**Project Number:** H133G070163

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 07 \$199,961; FY 08 \$199,961; FY 09 \$199,760

**Abstract:** This project is a comprehensive, longitudinal study of the characteristics, trends, and determinants of public spending for disability programs in the United States at the federal, state, and local level. Data collection and analysis utilizes 28 disability program subcategories across 4 major activity domains: income maintenance, general health care, long-term care, and special education. The project's comprehensive focus includes intellectual/developmental disabilities, mental illness, and physical/sensory disability. The envisioned state-by-state and nationwide database on public spending and program participation will be developed across fiscal years 1997-2008.

## Field Initiated Projects (FIPs)

Maryland

### Health Care Disparities in Access and Utilization among Individuals with Disabilities

---

University of Maryland/Baltimore County  
Maryland Institute for Policy Analysis and Research  
1000 Hilltop Circle  
Public Policy Building  
Baltimore, MD 21250  
nanmille@umbc.edu

**Principal Investigator:** Nancy Miller, PhD

**Public Contact:** 410/455-3889; Fax: 410/555-1184

**Project Number:** H133G090133

**Start Date:** October 01, 2009

**Length:** 36 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 09 \$194,848

**Abstract:** This project analyzes survey data to identify health disparities among individuals with disabilities. The project combines survey data from the National Health Interview Survey and the Medical Expenditure Panel Survey, pooling six years of data to enhance sample size. Through multivariate analyses, it examines two system level factors (health insurance and patient/provider interactions), and three individual level factors (race and ethnicity, socioeconomic status, and disability type), and their contribution to health care disparities. The measures of access and utilization mirror those included in the series of Agency for Healthcare Research and Quality National Healthcare Disparities reports. Researchers identify “doubly underserved” individuals: subpopulations with disabilities that are disparately impacted by system and individual characteristics. The project also examines the extent to which system and individual level factors differentially affect individuals with disabilities, relative to individuals without disabilities.

## Field Initiated Projects (FIPs)

Minnesota

# Development and Use of a Multi-State Database on Individual Outcomes and their Predictors for Persons with Intellectual and Developmental Disabilities in the US

---

University of Minnesota  
The Institute for Community Integration  
204 Pattee Hall, 150 Pillsbury Drive, SE  
Minneapolis, MN 55455  
lakin001@tc.umn.edu

**Principal Investigator:** Charlie Lakin, PhD 612/624-5005

**Public Contact:** Sheryl Larson, PhD 612/625-6024; Fax: 612/625-6619

**Project Number:** H133G080029

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 08 \$200,000; FY 09 \$199,999

**Abstract:** The focus of this project is the National Core Indicators (NCI) Program, the most widely used program of outcomes assessment for persons with disabilities in the US. Today 24 states participate in at least bi-annual NCI-based outcome research on a minimum of 400 randomly selected persons with intellectual and developmental (ID/DD) receiving publicly-financed services. Participating states receive validated, psychometrically-tested instrumentation, technical assistance with random selection procedures, standardized training of interviewers, and a centralized system of data quality review, coding, and analysis. The purpose of the study is: (1) to merge and analyze the wholly congruent records of more than 10,000 randomly sampled adults from 15 purposely selected, nationally distributed states to examine the interactions among individual characteristics, service delivery models and settings, and individual outcomes and experiences; and (2) to carefully evaluate and refine, as needed, the measures and methods of the NCI program to assure maximum validity and utility in assessing quality of support to persons with ID/DD. Merging the wholly congruent state data sets provides a unique opportunity to use and refine a research data set of incomparable size, flexibility, national representation, and consistency with national goals for supports to persons with ID/DD.

## Field Initiated Projects (FIPs)

Texas

### Impact of Prospective Payment and Rehabilitation Outcomes

---

University of Texas Medical Branch  
301 University Boulevard  
Galveston, TX 77555  
kottenba@utmb.edu

**Principal Investigator:** Kenneth J. Ottenbacher, PhD

**Public Contact:** 409/747-1637; Fax: 409/747-1638

**Project Number:** H133G080163

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 08 \$199,386; FY 09 \$198,085

**Abstract:** This project examines associations and trends in key rehabilitation outcomes before and after the introduction of prospective payment (PPS). Research objectives include: (1) to examine the impact of differences in the scoring and recording methods used to measure functional status pre-PPS (FIM Instrument) and under the PPS (Inpatient Rehabilitation Facility-Patient Assessment Instrument); and (2) to compare associations and trends in outcomes for three years pre-PPS (1999-2001) to three years under the PPS (2002-2004). Outcomes examined include length of stay, functional status at admission, discharge and follow-up (3-6 months), living setting pre-admission, incidence of hospital readmission, and mortality. Research objectives are addressed using two data sets. The Uniform Data System for Medical Rehabilitation (UDSMR) is used to examine the impact of changes in rating and coding functional assessment data introduced with the PPS in 2002 (Objective 1). Association and trends are explored using both the UDSMR database and Centers for Medicare and Medicaid Services (CMS) files (Objective 2). The CMS information includes the Inpatient Rehabilitation Facilities-Patient Assessment Instrument file, the Medicare Provider Analysis and Review file, and the Medicare Denominator file. The project examines data from major impairment groups including stroke, brain dysfunction, spinal cord injury, neurological deficits, and orthopedic conditions. Hierarchical linear and quasi-likelihood statistical models are used to analyze trends in data prior to PPS (three years) and during PPS (three years) adjusting for relevant covariates (age, gender, race/ethnicity, comorbidities, etc.). Finally, the project provides the information necessary for making evidence-based decisions related to future changes in rehabilitation practice, payment, and policy.

## Field Initiated Projects (FIPs)

Virginia

# A National Assessment of the Rates and Correlates of Alcohol and Other Drug Use by College Students with Disabilities

---

Virginia Commonwealth University  
School of Allied Health Professions  
Department of Rehabilitation Counseling  
1112 East Clay Street  
Richmond, VA 23298

**Principal Investigator:** Steven L. West, PhD, CRC

**Public Contact:** 804/827-0921; Fax: 804/828-1321

**Project Number:** H133G080123

**Start Date:** October 01, 2008

**Length:** 36 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 08 \$199,999; FY 09 \$200,000

**Abstract:** This project studies the rates of substance use and abuse, the correlates of such use, and the impact of such use on college students with disabilities. These students face a number of challenges that may inhibit their performance and limit their acquisition of college degrees. The failure to perform to standard or to complete a college degree can have severe and long-lasting consequences in terms of lifelong employment, community integration, and the overall health and well-being of persons with disabilities. Although there are many barriers to the successful acquisition of a college degree, much of the current research in the field of higher education centers on the negative effects of substance use and abuse. Use of alcohol and other drugs by college students, regardless of disability, is associated with a number of negative outcomes. Notable among these are school failure and drop-out, a wide variety of health concerns, and a number of legal issues. To date, little is known about the rates of substance use and abuse by college students with disabilities. Research with general samples of people with disabilities note that such individuals abuse alcohol and other drugs at rates 10 to 20 times that of the general population; preliminary studies with students with disabilities suggest that they are also heavy users of alcohol and other drugs. By detailing the state of affairs nationally, this study allows for a broad understanding of the rates of substance use by college students with disabilities; details the impact of such use on academic performance, health and well-being; allows for the determination of factors related to both substance use and abstinence; aids in the development of prevention efforts; and provides aggressive dissemination of information on such issues to a wide audience of consumers and service providers.

## Field Initiated Projects (FIPs)

Washington

### Assessing the Impact of Medicare-D on SSDI Beneficiaries

---

Washington State University  
Department of Health Policy and Administration  
P.O. Box 1495  
Spokane, WA 99210

[www.spokane.wsu.edu/Academics/Health\\_Sciences/HPA/medicare/inde x.asp](http://www.spokane.wsu.edu/Academics/Health_Sciences/HPA/medicare/inde x.asp)

**Principal Investigator:** James J. Kennedy, PhD

**Public Contact:** 509/368-6971; Fax: 509/358-7984

**Project Number:** H133G070055

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 07 \$199,955; FY 08 \$199,706; FY 09 \$199,830

**Abstract:** This project employs a multi-method, repeated-measures design to assess the impact of Medicare-D on younger beneficiaries in four distinct but interrelated studies: (1) quantitative analysis of access and utilization rates among beneficiaries under age 65, using successive panels of the Medicare Current Beneficiary Survey; (2) qualitative research on the impact of Medicare benefits on employment and continuity of medical care, based on repeated focus groups at two sites; (3) formulary analysis of coverage for critical medications among competing private Medicare Advantage and Prescription Drug Plans in Washington State; and (4) ongoing policy analysis of legislative and regulatory changes in Medicare and SSDI. Tracking the impact of the new drug benefit is particularly important for younger adults with disabilities who become eligible for Medicare through the Social Security Disability Insurance (SSDI) program. Although younger beneficiaries comprise only 14.1 percent of the total Medicare population, they account for about 17 percent (\$71.6 billion) of total program expenditures. Despite their economic and political importance, younger beneficiaries with disabilities are routinely overlooked in published Medicare research and policy analysis. Through dissemination of research findings, this project enhances awareness in the research and policy community of the unique Medicare-D concerns of younger beneficiaries with disabilities, consistent with the ultimate goal of improving access to affordable health services for people with disabilities.

# Knowledge Translation

---

For NIDRR, knowledge translation (KT) encompasses the multidimensional, active process of ensuring that new knowledge gained through the course of research ultimately improves the lives of people with disabilities and furthers their participation in society. KT involves not only knowledge validation and dissemination but also the transfer of technology, particularly products and devices, from the research and development setting to the commercial marketplace to make possible widespread utilization of the products or devices.

## Contents

Disability and Rehabilitation Research Projects ..... 3  
Field Initiated Projects (FIPs) ..... 10  
Utilization Projects ..... 11



## Disability and Rehabilitation Research Projects

Alabama

### National Spinal Cord Injury Statistical Center (NSCISC)

---

University of Alabama/Birmingham

SRC 515

1717 Sixth Avenue, South

Birmingham, AL 35249-7330

nscisc@uab.edu

www.uab.edu/nscisc

**Principal Investigator:** Yuying Chen, MD, PhD 205/934-3320

**Public Contact:** Vicki Farris 205/934-5049; Fax: 205/934-2709

**Project Number:** H133A060039

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 06 \$625,000; FY 07 \$625,000; FY 08 \$625,000; FY 09 \$625,000

**Abstract:** The National Spinal Cord Injury Statistical Center (NSCISC) at the University of Alabama at Birmingham has been the home of the National Spinal Cord Injury Model Systems (SCIMS) Data Center since 1983. The NSCISC continues and expands its current activities and implements innovative new tasks to accomplish the following goals: (1) maintenance of the SCIMS database, (2) high-quality data in the SCIMS database, (3) high quality data collected from database participants of all racial/ethnic backgrounds, (4) rigorous SCIMS database research conducted by all investigators, (5) enhanced continuity of the SCIMS database, and (6) improved database operations through collaboration. In particular, the project takes advantage of the latest Internet and centralized database technology to rewrite the database software from its current distributed format to a centralized web-based system, which will significantly improve the capability to manage new data module projects, increase cost-efficiency, improve quality control, and enhance data security. To promote best research practices across the SCIMS, the Center establishes an annual online comprehensive training curriculum for SCIMS data collectors, conducts evaluative site visits, publishes a guide regarding proper use of the database, and refines standards on culturally appropriate SCI research. The project includes subcontracts with formerly-funded SCIMS centers to continue data collection for patients previously enrolled in their research. The Center continues to benefit from the active involvement of persons with SCI and productive partnerships with other NIDRR-funded centers in the design, implementation, and evaluation of these activities.

**Disability and Rehabilitation Research Projects**  
Massachusetts

**Innovative Knowledge Dissemination and Utilization for Disability and Professional Organizations and Stakeholders**

---

Boston University  
Center for Psychiatric Rehabilitation  
940 Commonwealth Avenue West  
Boston, MA 02215-1203  
psyrehab@bu.edu

**Principal Investigator:** Marianne Farkas, ScD

**Public Contact:** 617/353-3549; Fax: 617/353-7700

**Project Number:** H133A050006

**Start Date:** October 01, 2005

**Length:** 60 months

**NIDRR Officer:** Pimjai Sudsawad, ScD

**NIDRR Funding:** FY 05 \$498,878; FY 06 \$493,698; FY 07 \$499,966; FY 08 \$499,947; FY 09 \$491,473

**Abstract:** This project is working collaboratively with NIDRR, professional and consumer organizations, and stakeholders to develop, test, and apply a process of research standards development, implementation, and related information dissemination strategies that allows end-users in the rehabilitation field to make informed choices based on the perceived utility of the research available, and in doing so, promote utilization of rehabilitation research. The project uses well-developed standards to determine which rehabilitation research results are of sufficient rigor to be worthy of dissemination. Thus establishing an ongoing, scientific, easily accessible, central resource to help professionals utilize what works in the disability field. The project has six specific goals: (1) Producing quality standards for rating rehabilitation research rigor and meaning. A broad range of experts and various stakeholders participate in consensus building regarding adapting existing standards for rating research rigor, and create standards for meaning (perceived relevance). In this way, information disseminated will not only be assessed as to its scientific rigor but also with respect to its relevance and applicability to various end-users, thus promoting utilization of the research. (2) Project staff, along with NIDRR staff, professional and constituent organizations, and other Knowledge Translation projects assist in developing standard topic selection criteria and in selecting topical areas for information products. (3) Producing relevant information products describing the quality and implications of rehabilitation research studies based on the developed standards. Constituent organizations participate in developing dissemination plans to translate research syntheses in the identified topical areas into information products relevant for appropriate constituencies. (4) Creating and testing a prototype interactive website, The Right to Know Clearinghouse, to implement innovative dissemination strategies for key groups. (5) Evaluating the output, perceived utility, and outcomes of the Knowledge Translation project using the NIDRR logic model. Evaluated outcomes include an increase in awareness of research among constituency groups, an increase in understanding of research rigor and meaning among those groups, and an increase in the use of research information by end-users. (6) Disseminating the project's findings to stakeholders.

**Disability and Rehabilitation Research Projects**  
New York

---

**Center on Knowledge Translation for Technology Transfer**

---

University at Buffalo  
The State University of New York  
Center for Assistive Technology  
100 Sylvan Parkway, Suite 400  
Amherst, NY 14228  
kt4tt.buffalo.edu

**Principal Investigator:** Joseph Lane 716/204-8606, x211

**Public Contact:** 716/204-8606 (V); 800/628-2281 (TTY); Fax: 716/204-8610

**Project Number:** H133A080050

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Pimjai Sudsawad, ScD

**NIDRR Funding:** FY 08 \$999,998; FY 09 \$999,994

**Abstract:** The objective of this project is to study and apply the theory and practice of knowledge translation (KT) to the knowledge outputs of NIDRR technology grantees. Goals of this project are improved understanding of barriers to accomplishing KT for technology transfer (TT) and carriers to overcome them; advanced knowledge of the best models, methods, and measures for accomplishing KT for TT; and increased utilization of the validated best practices for KT for TT by the NIDRR grantees. Research Project 1 synthesizes current knowledge about KT theory and practice related to accomplishing technology transfer outcomes; establishes parallel models of practices for both knowledge translation and technology transfer; and creates an operational framework for the Knowledge To Action (KTA) model, by applying the technology transfer methods and measures promulgated by the Product Development Manager's Association (PDMA), to create counterparts in knowledge translation. Project 2 establishes parameters for defining new knowledge as an innovation, and establishes Grantee Innovation Profiles for participating RERC and SBIR grantees in wheeled mobility, sensory disability, and environmental access technology areas; and interviews representatives for the six categories of knowledge users (i.e., researchers, manufacturers, clinicians, policy makers, consumers, brokers), to establish Knowledge Value Profiles for each user category. Research Project 3 conducts a series of six intervention studies in the three technology areas. They communicate a series of randomly selected innovations to the six user categories, either through standard knowledge dissemination practices, or through knowledge translation practices applied through the operational KTA model. Development Project 1 conducts a series of at least six technology transfer demonstration projects, working in collaboration with corporate partners, while RERC and/or SBIR grantees interact as participant observers. Development Project 2 creates a knowledgebase consisting of a data base structure customized for access by each category of knowledge user based on their respective value systems, along with all DRRP training materials publicly available in accessible and usable forms. A Utilization Project encourages NIDRR grantees to use the DRRP's materials, and implement the operational KTA model, through coordinated dissemination, training, and technical assistance projects. This project also promotes the diffusion and utilization of innovative research-based knowledge by targeting each of the six categories of knowledge users with a parallel coordinated program of the same multiple methods.

## Disability and Rehabilitation Research Projects

New York

### Center for International Rehabilitation Research Information and Exchange (CIRRIE-2)

---

University at Buffalo  
The State University of New York  
Center for Assistive Technology  
515 Kimball Tower  
Buffalo, NY 14214  
ub-cirrie@buffalo.edu  
cirrie.buffalo.edu

**Principal Investigator:** John Stone, PhD 716/829-3141, ext. 125

**Public Contact:** Marcia E. Daumen 716/829-3900, ext. 146; Fax: 716/829-2211

**Project Number:** H133A050008

**Start Date:** November 01, 2005

**Length:** 60 months

**NIDRR Officer:** Pimjai Sudsawad, ScD

**NIDRR Funding:** FY 05 \$500,000; FY 06 \$500,000; FY 07 \$500,000; FY 08 \$500,000; FY 09 \$500,000

**Abstract:** The Center for International Research Information and Exchange (CIRRIE-2) offers a comprehensive approach to address the needs of researchers, practitioners, and consumers for research-based information from international sources. CIRRIE-2 objectives include: Expanding the existing Database of International Rehabilitation Research; developing an online, multi-lingual, international encyclopedia of rehabilitation in English, Spanish, and French in collaboration with the Quebec Institute for Physical Rehabilitation; sponsoring an international conference and workshops on the International Classification of Functioning, Disability, and Health (ICF); creating a Community of Practice on the ICF; and cross mapping ICF terms to the thesaurus that is used to search both CIRRIE and REHABDATA databases. CIRRIE-2 sponsors workshops on the ICF in cooperation with the American Psychological Association and the WHO North American Collaborating Center (NACC), and plans an international conference on the ICF in Year 2, in collaboration with the NACC. Additionally, CIRRIE develops new pre-service initiatives in the area of cultural competence for disability service providers, including: curriculum guides and monographs; and conducting an international conference on Providing Culturally Competent Disability Services in collaboration with Toronto-based Joint Centre of Excellence on Research and Immigration and Settlement. CIRRIE-2 supports collaborative activities between the US and other countries by conducting four types of international exchange programs: (1) short-term exchanges of individuals, (2) institutional linkage exchanges, (3) a program for Minority Serving Institutions, and (4) a program for information gathering for dissemination to US audiences.

## Disability and Rehabilitation Research Projects

Texas

### **National Center for the Dissemination of Disability Research (NCDDR)**

---

SEDL  
4700 Mueller Boulevard  
Austin, TX 78723  
lin.harris@sedl.org  
www.ncddr.org

**Principal Investigator:** John Westbrook, PhD

**Public Contact:** Lin Harris, Information Specialist 800/266-1832 (V/TTY); Fax: 512/476-2286

**Project Number:** H133A060028

**Start Date:** January 01, 2006

**Length:** 60 months

**NIDRR Officer:** Pimjai Sudsawad, ScD

**NIDRR Funding:** FY 06 \$750,000; FY 07 \$750,000; FY 08 \$750,000; FY 09 \$750,000

**Abstract:** The goal of the National Center for the Dissemination of Disability Research (NCDDR) is to promote the utilization of research results developed through NIDRR grants/contracts. Major areas of work of the NCDDR include: (1) Research designed to collect information that assists in identifying the needs and most likely strategies that assist in matching dissemination practices with intended user audiences. Activities include conducting annual surveys, focus groups, surveys, and annual reporting of state-of-the-art information about NIDRR grantees' dissemination successes. (2) Demonstration conducted to determine the effectiveness of new strategies and approaches in achieving intended dissemination and utilization outcomes. Activities include developing and using innovative web-based mechanisms, increasing common portal access to substantive English and Spanish language resources of grantees, and developing outreach strategies for under-represented audiences. (3) Dissemination and Utilization implemented not to support the simple distribution of materials and other resources but rather the use of research outcomes in meaningful ways by those that can most benefit from their use. Activities include production of print and web-based informational products, networking of grantees to maximize outreach impact, and developing networks with a variety of research stakeholder groups for information and strategy exchanges. (4) Technical Assistance provided to NIDRR grantees to build understanding, skills, and resources related to the dissemination and utilization of their disability research outcomes. Activities include providing onsite and offsite assistance in planning effective dissemination efforts, providing direct assistance to grantees with targeted dissemination efforts, and assisting in designing evaluation strategies to measure dissemination and utilization outcomes.

**Disability and Rehabilitation Research Projects**  
Virginia

**Disability and Business Technical Assistance Centers: Coordination,  
Outreach, and Research Center**

---

Virginia Commonwealth University  
Department of Rehabilitation Counseling  
1112 East Clay Street; P.O. Box 980330  
Richmond, VA 23298-0330  
btmcmaho@vcu.edu  
www.adata.org

**Principal Investigator:** Brian T. McMahon, PhD 804/827-0917

**Public Contact:** Cynthia Young 804/828-3875; Fax: 804/828-1321

**Project Number:** H133A060087

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Pimjai Sudsawad, ScD

**NIDRR Funding:** FY 06 \$849,957; FY 07 \$849,968; FY 08 \$849,991; FY 09 \$849,968

**Abstract:** This coordination, outreach, and research center (CORC) expands and enhances the activities of the regional system of Disability and Business Technical Assistance Centers (DBTACs), guided by the principles of evidence-based practice and knowledge translation, with a dual emphasis on communities of practice and demand-side job placement. The CORC objectives are to: (1) improve public access to ADA information by creating a definitive ADA web site, DBTAC-IN, which includes a compendium of DBTAC materials, databases, publications, products, tools, and activities; (2) create a CORC Research Review Board to coordinate, support, and review new evidence-based products and publications, including original CORC research, and assess their effectiveness and impact on policy and practice; (3) increase the research capacity of the regional DBTACs network to both conduct and utilize quality research by modeling such behavior and by providing direct and meaningful consultation to regional DBTACs to facilitate their success; (4) coordinate dissemination of regional DBTAC and CORC publications and products in concert with appropriate NIDRR research and dissemination centers; (5) translate DBTAC evidence reports, publications, and products into practice guidelines, quality improvement products, and technical assistance tools; and (6) host five planning conferences with regional DBTACs, and three research conferences in Project Years III, IV, and V in order to demonstrate the added value of evidence-based practice in the DBTAC network. Original CORC research has an employment emphasis. CORC activities include 19 original research projects involving the National EEOC ADA Research Project, 15 training activities in collaboration with the regions, dissemination and outreach projects, research and consultation with Regional DBTACs, technical assistance projects, and program evaluation.

**Disability and Rehabilitation Research Projects**  
Washington

**Model Systems Knowledge Translation Center (MSKTC)**

---

University of Washington  
Center for Human Development and Disability  
Center for Technology and Disability Studies  
1959 NE Pacific Street, HSB BB-919  
Box 356490  
Seattle, WA 98195  
msktc@u.washington.edu  
msktc.washington.edu

**Principal Investigator:** Kurt Johnson, PhD  
**Public Contact:** 206/543-3677; Fax: 206/543-4779

**Project Number:** H133A060070

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Pimjai Sudsawad, ScD

**NIDRR Funding:** FY 06 \$598,163; FY 07 \$598,833; FY 08 \$599,876; FY 09 \$599,352

**Abstract:** The Model Systems Knowledge Translation Center (MSKTC) facilitates the dissemination of research-to-practice and consumer education for the model systems programs in traumatic brain injury (TBI), spinal cord injury (SCI), and burn injury. The MSKTC knowledge translation and dissemination efforts focus on research conducted by the model systems programs, identified best practices, and clinician and consumer education materials developed by the model systems. The MSKTC also works collaboratively with members of the MSKTC Research Advisory Board and experts in TBI, SCI, and burn injury to conduct systematic reviews of key areas of rehabilitation research relevant to the model systems projects. The MSKTC is housed within the University of Washington's Center for Technology and Disability Studies in the Center for Human Development and Disability and builds on previously funded NIDRR knowledge translation efforts.

## Field Initiated Projects (FIPs)

Massachusetts

# **EVIDAAC: A Database of Appraised Evidence in Augmentative and Alternative Communication**

---

Northeastern University  
Department of Speech, Language, Audiology, and Pathology  
151B Forsyth  
Boston, MA 02115-5000  
r.schlosser@neu.edu  
www.evidaac.com

**Principal Investigator:** Ralf W. Schlosser, PhD

**Public Contact:** 617/373-3785; Fax: 617/373-8756

**Project Number:** H133G070150

**Start Date:** October 01, 2007

**Length:** 36 months

**NIDRR Officer:** Pimjai Sudsawad, ScD

**NIDRR Funding:** FY 07 \$195,525; FY 08 \$199,910; FY 09 \$198,889

**Abstract:** This project develops EVIDAAC, an accessible and usable database of appraised research evidence in augmentative and alternative communication (AAC) for practitioners (speech-language pathologists, occupational therapists, physical therapists, special educators, rehabilitation engineers, etc.), individuals using AAC, and their families. EVIDAAC provides access to pre-filtered evidence-based practice by critically appraising studies (randomized control trials [RCTs], non-RCTs, case series, single-subject experimental designs) and systematic reviews. This saves time and reduces the skill-burden associated with having to appraise evidence, a documented barrier to the utilization of EBP. EVIDAAC is developed in accordance with published quality criteria for health-related web sites using formative and process evaluation. Accessible web design principles are integrated into the development of the database, with regular assessment using Web Accessibility Initiative principles and guidelines. Its usability is tested with rigorous technologies, including structured usability tasks in controlled laboratory situations and the determination of utilization patterns in real-life circumstances via web-log analysis. Results gleaned feed back into improving the database.

**Utilization Projects**  
Maryland

**National Rehabilitation Information Center (NARIC)**

---

HeiTech Services, Inc.  
8201 Corporate Drive, Suite 600  
Landover, MD 20785  
naricinfo@heitechservices.com  
www.naric.com

**Principal Investigator:** Mark X. Odum

**Public Contact:** Information Specialists 800/346-2742 (V); 301/459-5984 (TTY); 301/459-5900 (V);  
Fax: 301/459-4263

**Project Number:** ED-08-CO-0095

**Start Date:** June 30, 2008

**Length:** 24 months

**NIDRR Officer:** Pimjai Sudsawad, ScD

**NIDRR Funding:** FY 08 \$828,331; FY 09 \$853,674

**Abstract:** The National Rehabilitation Information Center (NARIC) maintains a research library of more than 65,000 documents and responds to a wide range of information requests, providing facts and referral, database searches, and document delivery. Through telephone and online information referral, NARIC disseminates information gathered from NIDRR-funded projects, other federal programs, and from journals, periodicals, newsletters, films, and videotapes. NARIC maintains REHABDATA, a bibliographic database on rehabilitation and disability issues, both in-house and online. Users are served by telephone, mail, electronic communications, or in person. NARIC also prepares and publishes the annual NIDRR Program Directory, available in database format from NARIC's web site.

**Utilization Projects**  
Maryland

**ABLEDATA**

---

ORC Macro  
8630 Fenton Street, Suite 930  
Silver Spring, MD 20910  
abledata@macrointernational.com  
www.abledata.com

**Principal Investigator:** Katherine Belknap 301/608-8998, ext. 105

**Public Contact:** 800/227-0216 (V); 301/608-8998 (V); 301/608-8912 (TTY); Fax: 301/608-8958

**Project Number:** ED-04-CO-0018/0007

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Pimjai Sudsawad, ScD

**NIDRR Funding:** FY 08 \$779,573; FY 09 \$779,573

**Abstract:** This project maintains and expands the ABLEDATA product information database, develops information and referral services that are responsive to the special technology product needs of consumers and professionals, and provides the data to major dissemination points to ensure wide distribution and availability of the information to all who need it. The ABLEDATA database contains information on more than 34,000 commercially produced and custom-made assistive devices. Requests for information are answered via telephone, mail, electronic communications, or in person.

## ADA Technical Assistance Programs

---

The Americans with Disabilities Act (ADA) opens more opportunities for persons with disabilities. It also places certain responsibilities on employers, transit and communication systems, state and local governments, and public accommodations. To assist covered parties to understand and comply with the ADA, NIDRR has funded a network of grantees to provide information, training, and technical assistance to businesses and agencies with duties and responsibilities under the ADA.

### Contents

ADA Technical Assistance Projects .....	3
---	---



**ADA Technical Assistance Projects**  
Region I - CT, ME, MA, NH, RI, and VT

---

**DBTAC-New England ADA Center — Region I**

---

Institute for Human Centered Design  
200 Portland Street, First Floor  
Boston, MA 02114  
adainfo@newenglandada.org  
adaptiveenvironments.org/neada/site/home

**Principal Investigator:** Valerie Fletcher 617/695-1225, ext. 226

**Public Contact:** 800-949-4232 (V/TTY in CT, ME, MA, NH, RI, and VT), 617/695-1225 (V/TTY);  
Fax: 617/482-8099

**Project Number:** H133A060092

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 06 \$1,026,116; FY 07 \$1,033,136; FY 08 \$1,053,190; FY 09 \$1,075,716

**Abstract:** The New England DBTAC provides technical assistance, training, and information dissemination for Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. This DBTAC continues these core services that are the bedrock of voluntary ADA compliance but also restructures the program to be more responsive and rigorous with an expectation of improving employment outcomes for people with disabilities. A set of partnerships and collaborations, led by the Center for Labor Market Studies at Northeastern University, conducts evidence-based research with collaborating organizations to implement comprehensive intervention and descriptive research strategies. The target populations for this DBTAC are students with disabilities and their diverse support services at institutions of higher education, and employers in demand-driven, high growth industries in New England. Goals for this DBTAC are to: improve understanding of rights and responsibilities under the ADA; identify innovative approaches and tested solutions that increase employment; produce and disseminate a “Guide to New England Jobs” for individuals with disabilities; publish results of findings in refereed journals; and utilize networks of new collaborators to disseminate information, materials, and research findings.

**ADA Technical Assistance Projects**  
Region II - NJ, NY, PR, and VI

**Disability and Business Technical Assistance Center — Northeast**

---

Cornell University  
Employment and Disability Institute  
School of Industrial and Labor Relations  
201 ILR Extension Building  
Ithaca, NY 14853-3901  
northeastada@cornell.edu  
www.northeastada.org

**Principal Investigator:** Susanne Bruyère, PhD, Project Director; Wendy Strobel Gower; 607/255-6751

**Public Contact:** Wendy Strobel Gower, Project Coordinator 607/255-6751; Fax: 607/255-2763

**Project Number:** H133A060088

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 06 \$1,105,000; FY 07 \$1,105,000; FY 08 \$1,105,000; FY 09 \$1,105,000

**Abstract:** The Disability and Business Technical Assistance Center - Northeast (DBTAC-Northeast) serves Region II to ensure the full implementation of the ADA through its core activities: technical assistance, training, information dissemination, and research. The DBTAC-Northeast target audiences include individuals with disabilities and their caregivers, employers, businesses, state and local government entities, and educational institutions in Federal Region II (New York, New Jersey, Puerto Rico, and the US Virgin Islands). Information dissemination activities include a comprehensive website, a newsletter, technical bulletins, and materials dissemination through networks and regional partners. Technical assistance activities focus on responding to requests for information received via an 800 phone line, submitted via the website, and received through email. Training activities are comprehensive in both approach and delivery, designed to meet the needs of educational organizations, employers, advocacy organizations, businesses, Title II organizations, individuals with disabilities, caregivers, and disability service organizations. Topics include advanced ADA issues related to employment, physical and programmatic access, state and federal laws and codes and relevant ADA court decisions, and accessible technology. Training is offered through a variety of open-enrollment programs at the state and local levels as well as provided on-site. Lastly, the DBTAC-Northeast team conducts targeted, rigorous research and evaluation activities designed to inform and develop innovative and effective approaches addressing critical disability questions to help ensure that services and interventions delivered by the DBTAC-Northeast are effective and relevant to the needs of the individuals and communities it serves.

**ADA Technical Assistance Projects**  
Region III - DC, DE, MD, PA, VA, and WV

**DBTAC: Mid-Atlantic ADA Center**

---

TransCen, Inc.  
451 Hungerford Drive, Suite 700  
Rockville, MD 20850-4151  
adainfo@transcen.org  
www.adainfo.org

**Principal Investigator:** Richard G. Luecking, PhD 301/424-2002

**Public Contact:** Marian S. Vessels, Project Director 800/949-4232 (V/TTY, in DC, DE, MD, PA, VA, and WV); 301/217-0124 (V/TTY); Fax: 301/217-0754

**Project Number:** H133A060085

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 06 \$1,098,929; FY 07 \$1,098,929; FY 08 \$1,098,929; FY 09 \$1,098,929

**Abstract:** The DBTAC: Mid-Atlantic ADA Center provides technical assistance, training, and information dissemination for Delaware, the District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia. The major goals of this DBTAC are to: improve the understanding by individuals and entities of their rights and responsibilities under the ADA; build the capacity of local and state entities to provide technical assistance and training on the ADA and related topics; improve employment outcomes of people with disabilities; and increase access by people with disabilities to lodging and other services from, as well as employment opportunities within, the high growth hospitality industry. There are four major areas of activity: (1) training, technical assistance, and dissemination to general ADA constituencies on all titles of the Act; (2) training and technical assistance to individual statewide coalitions to increase the capacity of other organizations to provide locally focused technical assistance on all titles of the ADA; (3) identification of problematic areas where research and informational campaigns might aid in the avoidance of or solutions to problems associated with the ADA, especially in the high growth hospitality industry; and (4) research on organizational and individual factors that affect decisions to provide reasonable accommodations and the resulting employment outcomes.

## DBTAC: Southeast ADA Center — Region IV

---

Syracuse University  
Burton Blatt Institute  
1419 Mayson Street  
Atlanta, GA 30324  
sedbtacproject@law.syr.edu  
www.sedbtac.org

**Principal Investigator:** Peter D. Blanck, PhD, JD; Shelley Kaplan; 315/443-9703 (Blanck); 404/541-9001 (Kaplan);

**Public Contact:** Shelley Kaplan, Project Director 800/949-4232 (V/TTY, in AL, FL, GA, KY, MS, NC, SC, and TN); 404/541-9001 (V/TTY); Fax: 404/541-9002

**Project Number:** H133A060094

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 06 \$1,105,000; FY 07 \$1,105,000; FY 08 \$1,105,000; FY 09 \$1,105,000

**Abstract:** The DBTAC: Southeast ADA Center (Southeast DBTAC) provides technical assistance, training, and information dissemination for Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee. Southeast DBTAC meets ADA-related information, training, and technical assistance needs of multiple public and private stakeholders through the provision of five core services: (1) information dissemination, (2) education and training, (3) technical assistance, (4) information referral, and (5) public awareness events. The Southeast DBTAC's research plan extends the state of knowledge about employer corporate culture and business practices, and ADA impact on civic action to reduce and eliminate barriers to full civic, social, and economic participation for Americans with disabilities. The Southeast DBTAC is lead by a consortium that includes four nonprofit institutions recognized for their knowledge of civil rights protections and impact across covered environments, access, and use of assistive technology (AT), employment and independent living, and consumer self-direction and advocacy. The organizations with a history of collaborative activity are Burton Blatt Institute of Syracuse University, Center for Assistive Technology and Environmental Access (CATEA) at Georgia Institute of Technology, Living Independence for Everyone of Jackson, Mississippi, and Partnerships in Assistive Technology of North Carolina. To continue responsiveness to employers, large and small within the region, the Southeast DBTAC established a Business Leadership Council (BLC) with ten stakeholders with a record of hiring and advancing workers with disabilities. The BLC provides advice and important linkages to the business community throughout the southeast to exchange research findings and knowledge that improves opportunities for employment for persons with disabilities. Half of core staff are persons with disabilities and/or represent historically underrepresented groups because of race, gender, national origin, and age. People with disabilities continue to direct core components of the Center's activities related to training and technical assistance and information dissemination. The Southeast DBTAC has an extensive collaborative network of over 99 local affiliates in all 8 states in the region that builds on the strengths and experiences of a diverse cross-section of individuals with and without disabilities representing disability, business, and governmental entities.

**ADA Technical Assistance Projects**  
Region V - IL, IN, MI, MN, OH, and WI

**DBTAC: Great Lakes ADA Center**

---

University of Illinois at Chicago  
Department of Disability and Human Development  
1640 West Roosevelt Road, Room 405  
Chicago, IL 60608-6904  
gldbtac@uic.edu  
www.adagreatlakes.org

**Principal Investigator:** Robin A. Jones, Project Director 312/996-1059

**Public Contact:** 800/949-4232 (V/TTY, in IL, IN, MI, MN, OH, and WI); 312/413-1407 (V/TTY);  
Fax: 312/413-1856

**Project Number:** H133A060097

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 06 \$1,105,000; FY 07 \$1,105,000; FY 08 \$1,105,000; FY 09 \$1,105,000

**Abstract:** The Great Lakes Disability and Business Technical Assistance Center (DBTAC) promotes awareness of the ADA to targeted audiences through provision of technical assistance, training, and material dissemination regarding the ADA. In addition, the Center engages in rigorous, research-related activities that contribute to a research agenda focused on but not limited to (1) the employment of people with disabilities, and (2) the impact that individual knowledge and experience with the utilization of technology in postsecondary education has on the employment outcomes of individuals with disabilities as they transition from postsecondary education to employment. The Great Lakes DBTAC provides timely, responsive, and proactive services utilizing a comprehensive service delivery model. The technical assistance, training, and information needs of the individual, employers, specifically those in high growth industries, business, government, educational entities, and disabled veterans employment programs are a part of on-going needs assessment, and programs and activities are tailored accordingly. The Center tracks emerging issues which are of interest to its target audiences and develops strategies to address their informational and technical assistance needs. Strategies include: (1) operation of a toll-free number for responding to questions or providing referral; (2) enhancement of the Center's existing network of individuals and organizations who can provide on-site consultation, technical assistance, and training as needed; (3) training events and activities at the local, state, and regional level focused on raising awareness of the ADA and disseminating the findings which result from the Center and its collaborators' research-related activities; (4) identification and dissemination of best practices related to the recruitment, hiring, and retention of qualified individuals with disabilities by employers and employment training programs; and (5) utilization of technology to promote the exchange of information including a web site, listservs, e-newsletters, multifaceted distance learning strategies and techniques, self-paced learning, and web-based assessment tools. Collaborators include but are not limited to the network of DBTACs, relevant NIDRR-funded projects, State Technology Act grantees, and Department of Labor grantees (WIA, Small Business Development Centers, JAN, etc.), as well as employer and business organizations such as the Business Leadership Network,

Society of Human Resource Management, State Chambers of Commerce, and National Federation of Independent Business chapters. In addition to these groups, the Center continues to act as a catalyst for activities that take place at the local and state level through collaboration between the business, government, and disability communities to promote awareness and voluntary compliance with the ADA. At the regional level, the Center relies heavily on the guidance of State Steering Committees and incorporates new structures to inform and direct the Center's activities including the newly established Regional Business Advisory Committee.

**ADA Technical Assistance Projects**  
Region VI - AR, LA, NM, OK, and TX

**Southwest Disability and Business Technical Assistance Center**  
**(Southwest DBTAC-Region VI)**

---

The Institute for Rehabilitation and Research (TIRR)  
Independent Living Research Utilization (ILRU)  
2323 South Shepherd, Suite 1000  
Houston, TX 77019-7024  
[www.dlrp.org](http://www.dlrp.org)

**Principal Investigator:** Wendy Wilkinson, Project Director

**Public Contact:** 800/949-4232 (V/TTY, in AR, LA, NM, OK, and TX); 713/520-0232 (V); 713/520-5136 (TTY); Fax: 713/520-5785

**Project Number:** H133A060091

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 06 \$1,104,007; FY 07 \$1,104,738; FY 08 \$1,104,885; FY 09 \$1,104,796

**Abstract:** The Southwest DBTAC provides a comprehensive array of training, technical assistance, and dissemination services on the ADA and other disability-related laws in the five states of Federal Region VI. The goals of these activities are to improve the employment outcomes of individuals with disabilities and maximize their full inclusion into society. Through a collaborative structure of partners, the Southwest DBTAC provides an array of services including: (1) research activities that identify impediments to compliance with the ADA and individuals' access to technology, postsecondary education, and the workforce, as well as tested solutions and innovative approaches to eliminate these impediments; (2) training activities that offer comprehensive, accurate, and timely information on the ADA's requirements, developments in case law, policy, and implementation to promote compliance with the ADA; (3) dissemination activities that increase knowledge about the ADA and DBTAC services through an effective, coordinated resource network for Region VI; and (4) technical assistance activities that respond to the needs of individuals and entities on the ADA and foster the development of new and promising practices that can be shared with others. SEDBTAC's network includes such organizations as the New Mexico Technology Assistance Project, the Southwest Education Development Laboratory, Arkansas Technology and Curriculum Access Center, Bureaus of Apprenticeship Training or State Apprenticeship Councils in each state, Valley Association of Independent Living, North Harris College, and other organizations and businesses that have demonstrated success in improving the lives of individuals with disabilities.

**ADA Technical Assistance Projects**  
Region VII - IA, KS, MO, and NE

---

**DBTAC - Great Plains ADA Center — Region VII**

---

University of Missouri/Columbia  
100 Corporate Lake Drive  
Columbia, MO 65203  
ada@missouri.edu  
www.adaproject.org

**Principal Investigator:** Jim de Jong, Project Director

**Public Contact:** 800/949-4232 (V/TTY, in IA, KS, MO, and NE); 573/882-3600 (V/TTY); Fax: 573/884-4925

**Project Number:** H133A060089

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 06 \$458,330; FY 07 \$1,100,000; FY 08 \$1,100,000; FY 09 \$1,100,000

**Abstract:** The Great Plains DBTAC provides technical assistance, training, and information dissemination for Iowa, Kansas, Missouri, and Nebraska. The Center provides the core services of material dissemination, technical assistance and training, and awareness to its target populations of people with disabilities, disability organizations, policy makers, public rehabilitation providers, employers, businesses, state and local governments, educators, design professionals, legal professionals, and the media. In addition, the Center includes a research model that can measure changes in employment, commerce, and community in terms of accessibility, receptivity, and active participation. Research conducted by the Washington University School of Medicine focuses on community participation and employment. The University of Kansas continually reviews emerging literature and research findings to improve core services and research activities. Paraquad, a Center for Independent Living, facilitates input from consumers at all stages of service provision and research, and represents the perspective of the intended beneficiaries of the project, people with disabilities. Additional quality assurance of the research and core services is provided by an Advisory Committee representing all parts of the region and professional disciplines involved in this project. Great Plains DBTAC is the lead sponsor of the ADA Symposium, THE Annual National ADA Training in St. Louis ([www.adasyposium.org](http://www.adasyposium.org)).

**ADA Technical Assistance Projects**  
Region VIII - CO, MT, ND, SD, UT, and WY

**DBTAC Rocky Mountain ADA Center — Region VIII**

---

Meeting the Challenge, Inc.  
3630 Sinton Road, Suite 103  
Colorado Springs, CO 80907-5072  
rmdbtac@mtc-inc.com  
www.adainformation.org

**Principal Investigator:** Jana Copeland, PhD, Project Director 719/444-0268

**Public Contact:** 800/949-4232 (V/TTY, in CO, MT, ND, SD, UT, and WY); 719/444-0268 (V/TTY); Fax: 719/444-0269

**Project Number:** H133A060079

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 06 \$1,105,000; FY 07 \$1,105,000; FY 08 \$1,105,000; FY 09 \$1,105,000

**Abstract:** This mission of the DBTAC Rocky Mountain ADA Center is to provide individuals and organizations in Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming with information on the ADA. Meeting the Challenge (MTC) has developed a program of technical assistance based on the concept of mass customization to address the specific needs of target groups across the region. Training activities take advantage of technology and new theories of training to ensure maximum impact. Dissemination provides tailored materials that provide actionable information for the specific needs of target groups. The capacity of this DBTAC is expanded through an ADA Leadership Network of 30-35 experts from across the region. To inform the technical assistance delivered by the DBTAC and to produce evidence-based reports on ADA implementation, MTC has allocated 15 percent of the DBTAC project budget to a coherent, sustained research agenda. Research is conducted by a team of research organizations from across the region, including Dr. Martin Blair at the Utah State University Center for People with Disabilities, Dr. Kathy Laurin at the University of Montana Rural Institute, and Patricia Yeager, a doctoral candidate at the University of Northern Colorado. The team is engaged in an initial program of research that has been coordinated through the DBTAC Coordination and Outreach Center. The focus of the project's ADA research agenda is improving employment outcomes for people with disabilities. The results of the DBTAC research program are used to inform technical assistance efforts by assessing the efficacy of the DBTAC's core functions and translating new research results into the technical assistance process. The DBTAC program includes an extensive plan of evaluation based on reviewing operational activities monthly and performance metrics quarterly and annually. The output and outcome evaluation is based on the DBTAC logic model developed by MTC over the past several years.

**ADA Technical Assistance Projects**  
Region IX - AZ, CA, HI, NV, and the Pacific Basin

**Disability and Business Technical Assistance Center (DBTAC) —  
Pacific ADA Center**

---

Public Health Institute  
555 12th Street; Suite 130;  
Oakland, CA 94607-4046  
adatech@adapacific.com  
www.adapacific.org

**Principal Investigator:** Erica C. Jones, Project Director 510/285-5600 (V/TTY)

**Public Contact:** 800/949-4232 (V/TTY, in AZ, CA, HI, NV, and the Pacific Basin); 510/285-5600 (V/TTY); Fax: 510/285-5614

**Project Number:** H133A060098

**Start Date:** October 01, 2006

**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 06 \$1,105,000; FY 07 \$1,105,000; FY 08 \$1,105,000; FY 09 \$1,105,000

**Abstract:** The Pacific DBTAC provides technical assistance, training, and information dissemination for Arizona, California, Hawaii, Nevada, and the Pacific Basin. The program places a special emphasis on increasing employment, reasonable accommodation, and retention of persons with disabilities - particularly through outreach to high growth industries - and on enhancing participatory/community living opportunities for persons with disabilities. In addition to enhancements in established training, dissemination, and technical assistance services, the program includes a research program designed to enhance compliance with ADA rules and regulations, expand employment and community living for persons with disabilities, and make significant contributions to the literature in the field. The research program includes two randomized, controlled trials operated by the Center in collaboration with the DBTAC Coordination, Outreach, and Research Center; a collaborative research initiative led by Cornell University that includes a partnership with three additional DBTACs and the Society for Human Resource Management (SHRM); and two five-year special initiatives operated in conjunction with the Center's training and technical assistance programs - one to test the effectiveness of selected online disability-related training modules and the other to develop innovative outreach and training approaches directed toward the hospitality industry.

**ADA Technical Assistance Projects**  
Region X - AK, ID, OR, and WA

**Disability and Business Technical Assistance Center (DBTAC) —  
Northwest**

---

University of Washington  
The Center for Continuing Education in Rehabilitation  
6912 220th Street SW, Suite 105  
Mountlake Terrace, WA 98043  
dbtacnw@u.washington.edu  
www.dbtacnorthwest.org/

**Principal Investigator:** Kathe Matrone, PhD 425/771-7436

**Public Contact:** 800/949-4232 (V/TTY, AK, ID, OR, and WA); 425/248-2480 (V); Fax: 425/774-9303

**Project Number:** H133A070048

**Start Date:** August 01, 2007

**Length:** 48 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 07 \$467,600; FY 08 \$1,105,000; FY 09 \$1,105,000

**Abstract:** The Northwest DBTAC provides information, training, and technical assistance on the ADA to educational organizations, employers, advocacy organizations, state and local governments, disability service organizations, parents, and individuals with disabilities in Alaska, Idaho, Oregon, and Washington. Core services include: technical assistance provided by phone, Internet, email, and in person; information dissemination in electronic and print formats, including a comprehensive website, quarterly newsletter, etc.; education and training on various aspects of the ADA using a variety of modalities, including teleconferences, web-based multimedia events, and face-to-face; and targeted research on interventions and strategies of problematic areas identified through outreach activities, such as barriers to employment and enhancing employment outcomes.



# Capacity Building for Rehabilitation Research and Training

---

In the arena of capacity building, NIDRR has focused its efforts on the personal and professional development of scientists, advocates, and people with disabilities, and is expanding this approach to include development of the capacity of institutions and organizations, especially those that address the needs of underserved populations. At the individual level, NIDRR focuses on capacity building to ensure a source of researchers to carry out the research agenda. In addition, NIDRR capacity building at this level enhances the ability of researchers to generate useful new knowledge. NIDRR historically has sought to increase the number of individuals from underrepresented groups in this effort, particularly those with disabilities. At the organizational or systems level, NIDRR capacity building supports the framework for carrying out individual level research work. At the systems level, all NIDRR programs may be said to involve capacity building, in that NIDRR funding is intended to increase the capacity of the field to conduct high quality research directed at its long-term goals and objectives.

## Contents

Rehabilitation Research and Training Centers (RRTCs) .....	3
Disability and Rehabilitation Research Projects .....	5
Fellowships (Distinguished) .....	12
Fellowships (Merit) .....	14
Advanced Rehabilitation Research Training Projects .....	22



Rehabilitation Research and Training Centers (RRTCs)  
Illinois

University of Illinois at Chicago National Research and Training  
Center on Psychiatric Disability

---

University of Illinois at Chicago  
Center on Mental Health Services Research and Policy  
1601 West Taylor Street, 4th Floor, M/C 912  
Chicago, IL 60612  
jonikas@psych.uic.edu  
www.psych.uic.edu/uicnrct

**Principal Investigator:** Judith A. Cook, PhD 312/355-3921

**Public Contact:** Jessica A. Jonikas 312/355-1696 (V); 312/422-0706 (TTY); Fax: 312/355-4189

**Project Number:** H133B050003

**Start Date:** October 01, 2005

**Length:** 60 months

**NIDRR Officer:** David W. Keer

**NIDRR Funding:** FY 05 \$500,000; FY 06 \$500,000; FY 07 \$500,000; FY 08 \$1,300,000; FY 09 \$500,000

**Other Funding:** FY 05 \$800,000 Centers for Mental Health Services (CMHS); FY 06 \$800,000 CMHS; FY 07 \$800,000 CMHS; FY 08 \$800,000 CMHS; FY 09 \$800,000 CMHS

**Abstract:** The University of Illinois at Chicago National Research and Training Center on Psychiatric Disability (UIC-NRTC) promotes access to effective consumer-centered and community-based practices for adults with serious mental illness. The Center is conducting five rigorous research projects to enhance the state of evidence-based practice (EBP) in this field: A randomized controlled trial (RCT) study of Wellness Recovery Action Planning (WRAP) to gather evidence regarding its effectiveness; an RCT to evaluate the effectiveness of BRIDGES, a 10-week peer-led education course designed to provide mental health consumers with basic education about the etiology and treatment of mental illness, self-help skills, and recovery principles; an RCT of peer support services delivered by Georgia's Certified Peer Specialists at consumer-run Peer Support Centers in order to determine the outcomes of service recipients; a self-directed care program in which adults with serious mental illnesses are given control of financial resources to self-direct their own recovery; and a project using data from 12 clinical trials studies of consumer-operated service programs to create a national data repository to promote research and develop scholarship in this area. The Center also conducts state of the art training, dissemination, and technical assistance projects designed to enhance the leadership skills of people with psychiatric disabilities, and evaluate a self-advocacy skills training program delivered to clients of a large psychosocial rehabilitation agency. Additional projects evaluate self-advocacy skills training programs and implement training programs to prepare consumer leaders in the State of California to take part in systems change in their local communities. UIC-NRTC is embarking on an academic curriculum transformation project starting at UIC in the medical, social, and behavioral sciences to incorporate principles of recovery and EBP for people with psychiatric disabilities. The UIC-NRTC is designing and administering a no-cost online certification program, providing compre-

hensive introduction of knowledge required by peer providers. Additionally, the UIC-NRTC is providing training and developing projects and tools to assist individuals in recovery to gain the skills necessary for community integration by enhancing the research capacity of three federally-funded consumer-run Technical Assistance Centers. Finally, the UIC-NRTC is offering an annual series of online workshops; web-based continuing education courses; and a state-of-science national conference (2008) focusing on EBP, research implementation, consumer-centered systems, workforce development, and other emerging trends.

**Disability and Rehabilitation Research Projects**  
Illinois

**Center for Strategic Capacity Building on Minorities with Disabilities  
Research**

---

University of Illinois at Chicago  
Department of Disability and Human Development (M/C 626)  
1640 West Roosevelt Road  
Chicago, IL 60608  
[www.disabilityempowerment.org/](http://www.disabilityempowerment.org/)

**Principal Investigator:** Fabricio E. Balcazar, PhD 312/413-1646

**Public Contact:** 312/413-1806 (V); 312/413-0453 (TTY); Fax: 312/413-1804

**Project Number:** H133A040007

**Start Date:** October 01, 2004

**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 04 \$600,000; FY 05 \$600,000; FY 06 \$600,000; FY 07 \$600,000; FY 08 \$600,000; FY 09 (No-cost extension through 10/31/2010)

**Abstract:** The Center for Capacity Building on Minorities with Disabilities Research (CBMDR) increases the capacity of community-based organizations (CBOs like Centers for Independent Living and other agencies) and State Vocational Rehabilitation (VR) Agencies to document the impact of their programs and develop culturally competent services. The CBMDR utilizes participatory research methodologies to promote organizational change. The Center's mission is to promote positive rehabilitation outcomes for minority individuals with disabilities at the national level. Center staff conducts participatory research and demonstration projects in collaboration with interested agencies, engages in active dissemination efforts, and provides state-of-the art training and technical assistance on cultural competence to professionals and researchers in the field. Presently, there is a limited understanding of the relationship between minority and disability status and how it affects an individual's access to quality rehabilitation, technical training, or independent living services that will result in competitive employment and increased independence. In addition, CBOs are under increased pressure from funders to use research methods to improve the quality of the services they provide. The Center utilizes a participatory program evaluation model which actively involves consumers and agency staff in the process of identifying service needs, selecting program goals, developing a logic model for success, and implementing and evaluating change efforts to address critical needs and improve services. From this perspective, participating agencies develop their capacity for effectively using consumer input and program data to identify research questions and methods to improve services. In addition, research projects examine various aspects of theory, methodology, measurement, and dissemination of information involving the study of underrepresented minorities with disabilities. Specifically, the project studies issues related to racial identity and cultural mistrust in service provision to minority populations; reviews the cultural and linguistic appropriateness of commonly used evaluation instruments in VR certification; develops standards for culturally competent and linguistically appropriate research and services; and identifies preferred strategies for the dissemination of research findings and other relevant

information to researchers and service providers. Center staff is also invested in promoting cultural competence among researchers and practitioners from around the country. The research initiatives include both quantitative and qualitative methodologies. Partnerships with universities, state VR agencies, and CBOs maximize the outreach efforts and long-lasting effect of the center. The Center develops specific techniques for ensuring that the information is disseminated in accessible formats to all stakeholders.

## Disability and Rehabilitation Research Projects

Louisiana

### Rehabilitation Research Institute for Underrepresented Populations (RRIUP)

---

Southern University A&M College  
Department of Rehabilitation and Disability Studies  
229 Blanks Hall  
Baton Rouge, LA 70813  
kundusubr@aol.com; alodutta1992@aol.com  
[www.subr.edu/science/rehabcounsel/RRIUP/index.htm](http://www.subr.edu/science/rehabcounsel/RRIUP/index.htm)

**Principal Investigator:** Alo Dutta, PhD

**Public Contact:** Madan Kundu, PhD 225/771-2819; 225/771-0047; Fax: 225/771-2293

**Project Number:** H133A031705

**Start Date:** December 01, 2003

**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 03 \$350,000; FY 04 \$350,000; FY 05 \$350,000; FY 06 \$350,000; FY 07 \$350,000; FY 08 (No-cost extension through 11/30/2009)

**Abstract:** The goals of this project are to improve the quality and utility of research related to individuals with disabilities from traditionally underserved racial/ethnic population, to enhance knowledge and awareness of issues related to these populations, to help maximize the full inclusion and integration of individuals with disabilities into society, and to improve the effectiveness of services authorized under the Rehabilitation Act. The objectives of this project are: (1) to expand the existing and proven work alliance of three minority and two non-minority entities, e.g., Southern University, East Carolina University, Crownpoint Institute of Technology, University of Memphis, and Independent Living Research Utilization respectively, for strengthening the disability-related multicultural research framework and improving long-term rehabilitation outcomes of culturally diverse groups; (2) to investigate, evaluate, and modify five measures to assess the capacity and competence of the disability and vocational rehabilitation workforce to provide quality services to individuals with disabilities from traditionally underserved racial and ethnic populations; (3) to investigate and develop culturally appropriate research capacity and infrastructure building techniques to ensure the optimal participation of minority entities and American Indian tribes in disability and rehabilitation research; and (4) to develop and evaluate outreach, recruitment, training, reinforcement, retention, and dissemination strategies to enhance participation of students and investigators from traditionally underserved populations as rehabilitation researchers, administrators, and educators.

**Disability and Rehabilitation Research Projects**  
New Hampshire

**Building Knowledge and Capacity in the Rehabilitation and Recovery  
of African-Americans Suffering from Severe Mental Illness: The  
Dartmouth-Howard Collaboration.**

---

Dartmouth College  
Dartmouth Psychiatric Research Center  
2 Whipple Place, Suite 202  
Lebanon, NH 03766

**Principal Investigator:** Rob Whitley, PhD; William Lawson, MD, PhD

**Public Contact:** 603/448-0263 (Whitley); 202/865-6611 (Lawson); Fax: 603/448-3976

**Project Number:** H133A080063

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 08 \$354,345; FY 09 \$355,566

**Abstract:** The goal of the three projects conducted by this center is to understand the broad service experience of African-Americans in psychiatric rehabilitation. The first project assesses the influence on rehabilitation of living in independent housing units in small, relationship-centered buildings that accommodate other people in recovery from mental illness. Seven of these small communities, each with approximately 120 apartments, are the focus of this project. These are located in and around Washington DC, and are studied longitudinally for three years using focus groups, interviews, and ethnography to assess influence of living in such a building on recovery and community integration. The second project examines the process of rehabilitation for African-Americans with a co-occurring severe mental illness and substance use disorder. Participants are those whose primary substance use is illegal drugs, and who are receiving either (1) dual diagnosis case management; (2) case management plus group therapy; or (3) case management plus contingency management. Participants are followed quantitatively and qualitatively over 18 months to assess how African Americans respond to these treatments, as well as their subjective perception of treatment delivery and impact. The final project is a study of the service experience of African-Americans in supported employment. Participants in six different supported employment programs are assessed quantitatively, for drop-outs, engagement, and missed appointments, and qualitatively through interviews and participant observation to understand the dynamics of the patient-provider interaction. The aim of this research is to assess the cultural competence of such programs, with an eye to building improved models tailored to African-Americans. This research involves a collaboration between Dartmouth Psychiatric Research Center and Howard University College of Medicine, Department of Psychiatry.

**Disability and Rehabilitation Research Projects**  
South Carolina

**Center on Health Outcomes Research and Capacity Building for  
Underserved Populations with SCI and TBI**

---

Medical University of South Carolina  
College of Health Professions  
Department of Rehabilitation Sciences  
77 President Street, Suite 117  
PO Box 250700  
Charleston, SC 29425  
cokerj@musc.edu  
[www.musc.edu/chp/sciorg/](http://www.musc.edu/chp/sciorg/) [www.sciandtbiresearch.blogspot.com/](http://www.sciandtbiresearch.blogspot.com/)

**Principal Investigator:** James S. Krause, PhD 843/792-1337

**Public Contact:** Jennifer Coker, MPH 843/792-7051; Fax: 843/792-5649

**Project Number:** H133A080064

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 08 \$353,133; FY 09 \$353,134

**Abstract:** This project builds the capacity of institutions that address the needs of underserved populations by: (a) conducting two innovative studies to generate new knowledge on the health of three underserved racial-ethnic groups with traumatic neurologic injuries; (b) providing capacity building through collaboration with South Carolina State University, a historic Black university, specialized instruction of undergraduate and graduate students, and widespread training to institutions and organizations that represent underserved populations; and (c) providing technical assistance to a wide array of target audiences to enhance the capacity to meet the needs of underserved populations. In Study 1, researchers interview 500 African-Americans from population-based surveillance systems with spinal cord injuries (SCI) or traumatic brain injuries (TBI) and compare their health behaviors, access to services, and the prevalence of chronic diseases with African-Americans in the general population (based on CDC surveillance). Researchers then identify the extent to which disparities observed in the general population are magnified after injury. Study 2 involves interviews with 836 participants with SCI, 575 of whom come from underserved populations (African-Americans, Hispanics, and American Indians) in order to identify psychological, environmental, and behavioral predictors of secondary health conditions. Mediation models are tested to identify the risk and protective factors most strongly associated with disparities in health outcomes (e.g., pain, depression, pressure ulcers) and the extent to which disparities disappear when accounting for these factors. Researchers also determine whether the predictive model is invariant across race-ethnicity (i.e., whether the significant predictors are the same across different racial-ethnic groups) and, if not, which predictors are most important for each. Capacity building efforts include workshops, mentorship of undergraduate and graduate students, and technical assistance.

## Disability and Rehabilitation Research Projects

# Minority Scholar/Champion Research Training Project

---

Texas Southern University  
3100 Cleburne Avenue  
Houston, TX 77004  
[www.tsu.edu/academics/continue/research/index.asp](http://www.tsu.edu/academics/continue/research/index.asp)

**Principal Investigator:** Irvine E. Epps, EdD 713/313-7224

**Public Contact:** Marie A. Henry 713/313-7225; Fax: 713/313-7579

**Project Number:** H133A031704

**Start Date:** December 01, 2003

**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 03 \$350,000; FY 04 \$349,655; FY 05 \$349,889; FY 06 \$348,986; FY 07 \$349,222; FY 08 (No-cost extension through 11/30/2009)

**Abstract:** The Minority Scholars/Champions Research Training Project develops, implements, and evaluates the effectiveness of a train-the-trainer “Scholar/Champion” model to facilitate increased and improved vocational rehabilitation (VR)/disability research among the targeted Historically Black Colleges and Universities (HBCUs). More specifically, the project develops an innovative research infrastructure of institutional “cores” that partner an HBCU, Texas Southern University (TSU), with a majority research institution, Baylor College of Medicine (BCM). Together, these partner institutions create a collaborative research infrastructure that increases research capacity and helps build an institutional research infrastructure at five additional HBCUs in Texas. These “cores” are: (1) the Administrative, Planning, and Evaluation Core directs the Center, selects Center participants, and supervises evaluation of all project activities, budgets, and reports; (2) the Training Core uses innovative methods of onsite and off-site training to recruit, support, and mentor minority investigators in the areas of research design, development, and implementation, including analysis of racial and cultural factors related to VR/disability research; (3) the Community Collaboration and Dissemination Core partners with communities and VR/disability agencies to engage individuals with disabilities in research and training, using a model of participatory action-oriented research, and disseminates culturally-sensitive information related to VR/disability research to community groups, agencies, and VR/disability researchers; and (4) the Research Core works with the HBCU Scholar/Champions to conduct innovative and rigorous pilot research projects as well as write fully developed research proposals that address racial disparities in VR/disability research.

**Disability and Rehabilitation Research Projects**  
Virginia

**Empowerment: Building Research Infrastructure Capacity**

---

Virginia Commonwealth University  
Department of Rehabilitation Counseling  
730 East Broad Street, Room 3070  
PO Box 980330  
Richmond, VA 23298  
anlewis@vcu.edu

**Principal Investigator:** Allen Lewis, PhD; Juan Carlos Arango-Lasprilla, PhD; Paul Wehman, PhD  
**Public Contact:** 804/827-0914; Fax: 804/828-1321

**Project Number:** H133A080060

**Start Date:** October 01, 2008

**Length:** 60 months

**NIDRR Officer:** Delores Watkins

**NIDRR Funding:** FY 08 \$356,550; FY 09 \$356,373

**Abstract:** This project identifies and evaluates current practice and methods in the conduct of minority disability research, offers research findings, and improves the capacity of minority institutions and persons with disabilities to effectively conduct and disseminate such research thereby advancing the state of the art and capacity in this research area. The project conducts three primary studies: (1) a national survey that examines the experiences of Americans with disabilities from underrepresented racial and ethnic minority groups to illuminate the current capacity of the public rehabilitation and disability system, and what research methods, dissemination practices, and strategies are needed to advance culturally competent research in the field; (2) a longitudinal study of post-injury unemployment for minority persons with traumatic brain and spinal cord injuries; and (3) prevalence and trends in employment discrimination due to disability for different ethnic groups. In addition to these three studies, the project has seven objectives: (1) establish meaningful collaborations and partnerships with historically black universities; (2) convene a major Think Tank Summit in Year 1 that becomes an ongoing Minority Disability Research Consortium; (3) create and implement an ongoing interactive web portal; (4) mentor interested minority students and faculty members; (5) infuse minority disability research best practices into research courses; (6) teach grant writing and publishing skills; and (7) conduct a State-of-the-Science Conference. The proceedings from such a conference and the results from the three studies lead to a major project outcome of a Handbook on Minority Disability Research. Other project outcomes include but are not limited to published papers from the three studies; a national network of individuals with disabilities and minorities from which the efficacy of research and dissemination practices can be evaluated in an ongoing manner; a web database of exemplary research studies, and trained minority students and university faculty who can implement minority disability research best practices identified by this effort and produce more research, including funded research via NIDRR grants, in the future.

Fellowships (Distinguished)  
Maryland

## Demographic Soup: Disentangling the Conceptual, Political, and Methodological Dimensions of Disability Statistics

---

Barbara Altman  
14608 Melinda Lane  
Rockville, MD 20853  
paul.altman@verizon.net

**Principal Investigator:** Barbara Altman

**Public Contact:** 301/460-5963

**Project Number:** H133F060011

**Start Date:** December 01, 2006

**Length:** 12 months

**NIDRR Officer:** A. Cate Miller, PhD

**NIDRR Funding:** FY 06 \$75,000; FY 07 (No-cost extension through 11/30/2008); FY 08 (No-cost extension through 11/30/2009)

**Abstract:** There are variances in disability research including how information is obtained and converted into useable data. This project brings together, in one document, the accumulation of knowledge on measuring disability in survey and census contexts. Through the incorporation of several methodologies including historical review, analysis of political processes and decision-making, and complete examination of the source, placement, and evaluation of disability measures currently in use, the book manuscript contributes to the improvement of disability statistics, serving as a reference document to understanding the data that exists. The book manuscript is divided into five sections: (1) examination of the political and historical context, which includes chapters on the history of disability measurement; (2) examination of the conceptualization and definition of disability, including chapters on the political definitions for programmatic purposes and theoretical definitions; (3) examination of the science, purpose, and relationship between the components of measurement, and the specific problems with measurement in relation to special populations (i.e. children); (4) reviews of sample analysis and the use of data including sources of data, research questions, and special focus on measures used in special areas of research (i.e. aging and employment); and (5) exploration of international measurement of disability and the role of the US in its development. Conclusions include recommendations for improving and standardizing the measurement and data collection process.

**Fellowships (Distinguished)**  
Pennsylvania

## **Cross-Disability Study of CRS**

---

Yin Ling Irene Wong, PhD  
3701 Locust Walk  
Philadelphia, PA 19104  
ylwong@sp2.upenn.edu

**Principal Investigator:** Yin Ling Irene Wong, PhD

**Public Contact:** 215/898-5505; Fax: 215/573-2099

**Project Number:** H133F090035

**Start Date:** September 01, 2009

**Length:** 12 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 09 \$75,000

**Abstract:** Supporting people with disabilities in integrated housing is a major goal of rehabilitation policy in the United States; therefore, it is important to identify factors that shape community residential services (CRS). This project uses a comparative case study design involving both quantitative and qualitative research approaches. Geographic information systems methodology is applied to assess various facets of the spatial contexts of people with psychiatric disabilities (PD) and intellectual or developmental disabilities ID/DD receiving CRS in eight counties from four states examining the extent to which the two populations are living in integrated housing, as well as the conditions of their neighborhoods. Semi-structured phone interviews with 12 representatives from 3 stakeholder groups in 2 states are conducted to generate an in-depth understanding of factors that contribute to the spatial patterns of CRS for people with PD and ID/DD. The stakeholder groups include consumer advocacy groups, service providers, and program planners/policy makers. Additionally, the project engages in a participatory action research approach by collaborating with key stakeholders at every stage of the research process. This research facilitates capacity building and improves operation of community-based service delivery systems.

**Fellowships (Merit)**  
Illinois

**Virtual Reality-Based Assessment Tool for Spatial Neglect Following Stroke**

---

Assaf Y. Dvorkin, PhD  
345 East Superior Street, Suite 1406  
Chicago, IL 60611  
a-dvorkin@northwestern.edu

**Principal Investigator:** Assaf Y. Dvorkin, PhD  
**Public Contact:** 312/238-5828; Fax: 312/238-2208

**Project Number:** H133F080010

**Start Date:** July 01, 2008

**Length:** 12 months

**NIDRR Officer:** A. Cate Miller, PhD

**NIDRR Funding:** FY 08 \$65,000; FY 09 (No-cost extension through 12/31/2009)

**Abstract:** This project investigates the possibilities of robotics and virtual reality technology in spatial neglect following stroke. A haptic/graphic virtual reality system (VRROOM) is developed and used in assessing and quantifying perceptual performance and overall movement quality. The data provides therapists and physicians with a more precise quantitative description of a patient's sensory and motor deficits in different spatial dimensions and provides a rational basis for improving current neuropsychological assessment measures.

## Fellowships (Merit)

Illinois

# The Effectiveness of Intelligent-Stretching Followed by Active Movement in Children with Cerebral Palsy

---

Yi-Ning Wu, PhD

345 East Superior Street, Room 1406

Chicago, IL 60611

**Principal Investigator:** Yi-Ning Wu, PhD

**Public Contact:** 312/238-4296

**Project Number:** H133F090042

**Start Date:** September 01, 2009

**Length:** 12 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 09 \$65,000

**Abstract:** This project establishes an effective treatment protocol by using a robotic-assisted device and biofeedback computer game-play to enhance walking ability, community participation, and the quality of life of children with cerebral palsy (CP). The Portable Intelligent Ankle Stretcher (PIAS), a state-of-the-art robotic technology, is combined with computer game-play for children with CP. A therapeutic rationale is incorporated into the robotic-assisted device and the biofeedback task-oriented computer game-play, thus increasing joint functional range of motion (ROM) and motor control over six weeks of intervention. First, the PIAS strenuously stretches the spastic/deformed ankle using intelligent control which moves the joint to extreme positions until a pre-specified peak resistance torque is reached and holds for a preset period; stretching velocity is controlled to be inversely proportional to the resistance torque at the joint (slow down at the ROM limits for patient safety and speed up in the middle ROM for efficient movement, and also avoid increasing spasticity). Second, after passive intelligent stretching, the participant actively moves the footplate of the PIAS with his/her ankle within a functional, participatory context by playing a computer game with assistance or resistance from the PIAS. Finally, the gentle, passive “intelligent” stretching is applied on the ankle for cooling down. Evaluation of the treatment effect on motor learning, biomechanical measurements, motor performance evaluation, gait analysis, and functional evaluation is conducted before, during, and after the treatment program. This treatment protocol facilitates the motor control of the ankle, improving functional mobility (i.e. walking). Additionally, the program provides children with CP with an effective and convenient treatment option to maintain ambulatory function into adolescence and adulthood.

Fellowships (Merit)  
Illinois

## Does the Non-Lesioned Hemisphere Influence Paretic Lower Limb Motor Function Following Stroke?

---

Sangeetha Madhavan, PhD  
345 East Superior Street, Suite 1408  
Chicago, IL 60613

**Principal Investigator:** Sangeetha Madhavan, PhD  
**Public Contact:** 352/262-2569

**Project Number:** H133F090009

**Start Date:** October 01, 2009

**Length:** 12 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 09 \$65,000

**Abstract:** This project explores the neurophysiological and behavioral consequences of ipsilateral cortical activation relating to paretic leg movement within the target population of individuals with subcortical chronic stroke. A recently developed transcranial magnetic stimulation (TMS) technique and magnetic resonance diffusion tensor imaging (DTI) are used to assess ipsilateral corticomotor connectivity from lower limb motor cortex to paretic limb spinal motoneurons. Further study of brain stimulation techniques, such as repetitive TMS and direct current stimulation, may render the cortex more susceptible to motor therapy. Project results lead to the effective application of non-invasive brain stimulation techniques to the appropriate hemisphere and to the individualization of rehabilitation strategies to maximize the effect of gait training, with the long-term goal of significantly increasing the number of independent community walkers among stroke survivors.

## Fellowships (Merit)

Illinois

# Subject-Specific EMG Pattern Classification to Promote Hand Rehabilitation in Stroke Survivors

---

Sang Wook Lee, PhD  
345 East Superior Street, Room 1406  
Chicago, IL 60611  
sanglee2@northwestern.edu

**Principal Investigator:** Sang Wook Lee, PhD

**Public Contact:** 312/238-6822; Fax: 312/238-2208

**Project Number:** H133F090018

**Start Date:** October 01, 2009

**Length:** 12 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 09 \$65,000

**Abstract:** This project develops a robust electromyography (EMG) pattern classification method from the muscle activation patterns of stroke survivors performing functional manual tasks and incorporates this technique into a rehabilitative training study. The EMG pattern classification method allows stroke survivors to incorporate their volitional drive with performing functional tasks, which is assisted by rehabilitative devices. Successful EMG pattern classification for stroke survivors considers the physiological characteristics that affect the muscle activation patterns of this population. Potential outcomes include: (1) targeted electrode placement increases the classification accuracy due to the weak muscle activities of stroke survivors; and (2) activation patterns of hand muscles (i.e., distal muscles) are affected by the activities of the elbow and shoulder muscles (i.e., proximal muscles). The project tests the rehabilitative benefit of a training protocol that incorporates the EMG classification method. The EMG pattern classification method is incorporated with the Actuated Cable Orthosis Glove (ACOG) system which provides external assistance for the finger extension, and the rehabilitation protocol is tested with a selected group of stroke survivors, who benefit the most from the specific functional tasks employed in the protocol.

**Fellowships (Merit)**  
Illinois

## **Client-Centered Practices in Spinal Cord Injury (SCI) Rehabilitation**

---

Christina Papadimitriou, PhD  
345 East Superior Street  
Chicago, IL 60611  
cpapadimit@ric.org

**Principal Investigator:** Christina Papadimitriou, PhD

**Public Contact:** 312/238-4856

**Project Number:** H133F090053

**Start Date:** December 01, 2009

**Length:** 12 months

**NIDRR Officer:** Pimjai Sudsawad, ScD

**NIDRR Funding:** FY 09 \$65,000

**Abstract:** This project improves the clinical practice and research for inpatient spinal cord injury (SCI) rehabilitation. Project objectives are to: (1) understand how client-centered concepts are put into practice by physical and occupational therapists in inpatient SCI rehabilitation; (2) identify critical barriers and facilitators to client-centered practice implementation in inpatient SCI rehabilitation: (a) for therapists at the level of the therapeutic encounter; (b) for patients at the level of the therapeutic encounter; (c) for therapists at the level of institutional policy and support; and (d) for the patient at the level of institutional policy and support; and (3) assess the use and appropriateness of the Canadian Occupational Performance Measure as an existing tool for supporting client-centered practice in inpatient SCI rehabilitation. The project employs a participatory action research framework an in-depth ethnographic study of client-centered practice involving a combination of observations, interviews, and focus groups. The project produces: (1) a web-based, updateable field guide (including a framework for understanding client-centeredness, exemplars of best practices, and a practice-based glossary of practice techniques); and (2) a series of institutional and policy level recommendations for better supporting client centered practice in inpatient SCI care. Dissemination plans include two conference presentations, three manuscripts, and two educational workshops or seminars.

## Fellowships (Merit)

Michigan

# Psychometric Evaluation of the Family Quality of Life Survey for Minority Families

---

Preethy Samuel, PhD  
4809 Woodward Avenue  
268 Leonard Simons Building  
Detroit, MI 48202  
preethy@wayne.edu

**Principal Investigator:** Preethy Samuel, PhD

**Public Contact:** 313/577-8562; Fax: 313/577-3770

**Project Number:** H133F080024

**Start Date:** September 01, 2008

**Length:** 12 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 08 \$65,000; FY 09 (No-cost extension through 12/31/2009)

**Abstract:** The long-term goal of the project is to evaluate the potential of empowerment family support projects in improving the family quality of life (FQOL) of underserved families using a culturally-sensitive and rigorous outcome measure. Hence the project evaluates the psychometrics of the Family Quality of Life Survey (FQOLS) for measuring the FQOL of low-income, inner city, minority families raising children with developmental disabilities. There are four project goals: (1) to establish the construct validity and reliability of the FQOLS by analyzing the factorial structure of each of the nine familial domains; (2) to establish the test-retest reliability of the FQOLS; (3) to establish the convergent validity of the FQOLS with the Beach Center FQOL Scale and the Family Community Integration Survey; and (4) to analyze the factors influencing the FQOL of low-income minority families raising children with disabilities.

## Fellowships (Merit)

Texas

### **Inpatient Rehabilitation Volume-Outcomes Relationship**

---

James E. Graham, PhD  
301 University Boulevard  
Galveston, TX 77555-1137  
jegraham@utmb.edu

**Principal Investigator:** James E. Graham, PhD

**Public Contact:** 409/747-1634; Fax: 409/747-1638

**Project Number:** H133F090030

**Start Date:** September 01, 2009

**Length:** 12 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 09 \$65,000

**Abstract:** This project investigates the volume-outcomes relationship within the major impairment categories in inpatient rehabilitation including persons with stroke, hip fracture, and lower extremity joint replacement. Project goals include: (1) examining the range of impairment-specific facility volumes for the most common inpatient rehabilitation impairment categories and the degree to which these volumes vary over time; (2) examining the relationships between impairment-specific facility volumes and rehabilitation outcomes; and (3) exploring the threshold values within distributions of impairment-specific volumes that optimally classify community discharge status following rehabilitation. Key outcome areas include: (1) rehabilitation length of stay, (2) functional status at discharge, and (3) discharge setting. Anticipated products include: (1) descriptive summaries of the ranges and yearly fluctuations in facility caseloads for the three primary impairment categories in inpatient rehabilitation, (2) assessments of the volume-outcomes relationship in rehabilitation, and (3) estimates on the utility of impairment-specific volumes to accurately classify community discharge status.

Fellowships (Merit)  
Washington

## Turning the Corner for Amputee Rehabilitation: Identifying the Appropriate Torsional Stiffness to Maximize Biomechanical Performance

---

Brian C. Glaister  
1410 North 40th Street  
Seattle, WA 98103

**Principal Investigator:** Brian C. Glaister

**Public Contact:** 414/807-7399

**Project Number:** H133F090050

**Start Date:** August 01, 2009

**Length:** 12 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 09 \$65,000

**Abstract:** This project identifies a range of torsional stiffness values that maximize overall biomechanical performance in terms of shear loads and instability. This is achieved by: (1) Investigating the effect of torsional stiffness on socket torques. The effect of torsional stiffness on socket loading (an easily measurable variable related to shear loading) is investigated through motion capture studies of lower limb amputees walking straight ahead and while navigating a 90-degree hallway corner while wearing an experimental prosthesis that can vary torsional stiffness. Special instrumentation on the prosthesis records socket torques. (2) Investigating the effect of torsional stiffness on stance stability in amputees experiencing torsional perturbations. In this experiment, torsional perturbations are applied to the trunk, and the center of mass and center of pressure are measured by a motion capture system and two force plates, respectively. Divergences of the two trajectories are used as an indicator of instability. In experimentation, subjects perform the trials under five stiffness values: rigid and four levels of stiffness representing the range of stiffness values exhibited by the human ankle as reported in the literature. The results of this work assist prosthetic manufacturers in developing transverse rotational adaptations that provide better biomechanical performance for lower limb amputees.

Advanced Rehabilitation Research Training Projects  
Illinois

## Advanced Rehabilitation Research Training Project in Rehabilitation Services Research

---

Northwestern University  
Rehabilitation Institute Research Corporation  
Center for Rehabilitation Outcomes Research  
345 East Superior Street  
Chicago, IL 60611  
a-heinemann@northwestern.edu  
[www.ric.org/research/fellowships.php](http://www.ric.org/research/fellowships.php)

**Principal Investigator:** Allen W. Heinemann, PhD  
**Public Contact:** 312/238-2802; Fax: 312/238-2383

**Project Number:** H133P030002

**Start Date:** July 01, 2003

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 03 \$150,000; FY 04 \$150,000; FY 05 \$150,000; FY 06 \$150,000; FY 07 \$150,000; FY 08 (No-cost extension through 06/30/2009); FY 09 (No-cost extension through 06/30/2010)

**Abstract:** This project develops a five-year fellowship program in rehabilitation-related health services research at Northwestern University's Institute for Health Services Research and Policy Studies and the Department of Physical Medicine and Rehabilitation. It uses available expertise and collaborators to train postdoctoral fellows in rehabilitation health services research. Over two years the program includes course work, a practicum, original research, and grant writing. Fellows new to health services research have six core courses, as well as the two additional courses for all fellows. The first year concentrates on beginning Masters in Public Health (MPH) courses. The second year includes intermediate MPH course work plus electives. Each fellow is expected to develop an individual research project by the end of the first training year, a publishable article by the end of the first year, and two articles by the end of the second year, in addition to submitting at least one grant application related to the research activity.

Advanced Rehabilitation Research Training Projects  
Illinois

## Rehabilitation Science for Basic Scientists and Engineers: An Advanced Training Program

---

Northwestern University  
Rehabilitation Institute of Chicago  
345 East Superior Street, Room 1406  
Chicago, IL 60611-4496  
r-millard@northwestern.edu

**Principal Investigator:** W. Zev Rymer, MD, PhD

**Public Contact:** Robin Millard 312/238-6051; Fax: 312/238-2208

**Project Number:** H133P040007

**Start Date:** May 01, 2004

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 04 \$149,625; FY 05 \$149,922; FY 06 \$149,570; FY 07 \$149,910; FY 08 \$149,558; FY 09 (No-cost extension through 4/30/2010)

**Abstract:** The goal of this program is to increase the number of PhD engineers and basic scientists trained to perform research aimed at solving problems of people with disabilities. To meet this objective, the project trains postdoctoral scientists in three areas of special expertise: musculoskeletal biomechanics; neurorehabilitation; and prosthetics, orthotics, and biomaterials. Targeted technical training is coordinated with intensive clinical instruction and experience. Postdoctoral trainees, including scientists and engineers from minority or disability groups, are recruited by regional and national advertising and via the Internet. Many training faculty are based within the Rehabilitation Institute of Chicago, providing access to active clinical rehabilitation programs, and interaction both with clinical faculty and people with disabilities.

## Advanced Training in Translational and Transformational Research to Improve Vocational Outcomes for Persons with Disabilities

---

University of Illinois at Chicago  
Department of Occupational Therapy  
1919 West Taylor Street, MC 811  
Chicago, IL 60612  
kielhfnr@uic.edu

**Principal Investigator:** Gary Kielhofner, PhD

**Public Contact:** 312/996-4973; Fax: 312/413-0256

**Project Number:** H133P060003

**Start Date:** September 01, 2006

**Length:** 60 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 06 \$150,000; FY 07 \$150,000; FY 08 \$150,000; FY 09 \$150,000

**Abstract:** This project provides an intensive, interdisciplinary postdoctoral training program that actively engages scholars in research designed to improve employment for persons with disabilities. This advanced training program focuses on sub-populations of people with disabilities who are likely to encounter the greatest number of barriers to accessing employment and relevant vocational services. Moreover, the training program emphasizes preparing scholars to conduct research that has real world impact (i.e., guiding and changing services, programs, organizations, and policies that influence employment of persons with disabilities). As such it emphasizes: (1) translational scholarship that uses empirical knowledge to develop, refine, and test optimal services and environmental strategies to support employment; and (2) transformational scholarship employing participatory methodologies that involve stakeholders in the research process and directly improve services, programs, organizations, and policies. The training is strongly informed by concepts from disability studies that highlight the importance of relevant services that address the perspectives of persons with disabilities and that address environmental barriers to employment. The postdoctoral training program recruits and enrolls seven highly qualified postdoctoral trainees from a variety of disciplines. Particular efforts are made to recruit postdoctoral trainees with disabilities as well as those from diverse backgrounds. Each trainee completes an intensive two-year advanced training program designed to assure acquisition of key skills critical to successful research careers. The training program includes: (1) didactic preparation, (2) close mentoring by highly qualified researchers, (3) immersion in ongoing research, and (4) field placement in carefully selected programs or organizations where employment of people with disabilities is being addressed. Trainees undergo a structured and closely supervised training process with a range of opportunities for didactic and experiential training and with common expected milestones. At the same time, each trainee's program is individually designed to assure that the trainee has access to the most rigorous and relevant concepts and research methodologies for his/her chosen focus for studying vocational needs, services, and outcomes. The project monitors and assures high quality training, and supports trainees to develop capacity to enter productive research careers that directly improve services, programs, and policies and that remove barriers to the employment of people with disabilities.

Advanced Rehabilitation Research Training Projects  
Illinois

**Advanced Rehabilitation Research Training Project in Rehabilitation  
Services Research**

---

Northwestern University  
Rehabilitation Institute Research Corporation  
Center for Rehabilitation Outcomes Research  
345 East Superior Street  
Chicago, IL 60611  
a-heinemann@northwestern.edu  
[www.ric.org/research/fellowships.php](http://www.ric.org/research/fellowships.php)

**Principal Investigator:** Allen W. Heinemann, PhD  
**Public Contact:** 312/238-2802; Fax: 312/238-4572

**Project Number:** H133P080006

**Start Date:** July 01, 2008

**Length:** 60 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 08 \$150,000; FY 09 \$150,000

**Abstract:** This project provides training to seven post-doctoral fellows as part of the Institute-led health services training program at Northwestern University. This well-functioning interdisciplinary program involves a substantial number of health services research faculty who work closely with one another to direct a rigorous and relevant interdisciplinary curriculum for training health services researchers. The program includes carefully matched mentors, didactic course work, original research, grant writing, and scientific publishing over a two-year program. Seven fellows develop new skills to enhance their previous training in order to pursue a research career in rehabilitation-related health services research.

Advanced Rehabilitation Research Training Projects  
Massachusetts

## Post-Doctoral Fellowship in Rehabilitation Outcomes and Effective Research

---

Boston University Medical Campus  
School of Public Health  
Health and Disability Research Institute  
580 Harrison Avenue  
Boston, MA 02118  
rmonarch@bu.edu  
www.bu.edu/cre/training

**Principal Investigator:** Alan M. Jette, PhD 617/638-1985

**Public Contact:** Roseanne Monarch 617/638-1992; Fax: 617/638-1992

**Project Number:** H133P050001

**Start Date:** September 01, 2005

**Length:** 60 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 05 \$150,000; FY 06 \$150,000; FY 07 \$150,000; FY 08 \$150,000; FY 09 \$150,000

**Abstract:** The BU Post-Doctoral Fellowship Program in Outcomes Research provides an interdisciplinary training and mentorship experience. The target group is doctorally-prepared rehabilitation professionals. The major function is to help post-doctoral fellows develop and refine the skills they will need to conduct high quality, independent, funded research on the outcomes and effectiveness of rehabilitation care. Innovative strategies include: Obtaining advanced knowledge in the four content areas of responsible conduct of research, advanced research design, advanced statistical methods, and contemporary measurement methodology; conceptualizing and assuming a major role in writing scientific articles; obtaining experience in developing and presenting scientific presentations; assuming a major role in writing research grant applications; and developing the ability to contribute in a meaningful and constructive fashion in planning and implementing scientific abstracts, grant applications, and scientific manuscripts as part of a research team. The main outcome of the program is to contribute to the creation of a cadre of highly skilled researchers equipped to conduct research to improve rehabilitation outcomes and evaluate existing and new rehabilitation interventions.

**Advanced Rehabilitation Research Training Projects**  
Massachusetts

**Advanced Research Training Program in Psychiatric Rehabilitation**

---

Boston University  
Sargent College of Health and Rehabilitation Sciences  
940 Commonwealth Avenue West  
Boston, MA 02215-1303  
zlatka@bu.edu  
www.bu.edu/SARPSYCH

**Principal Investigator:** Zlatka Russinova, PhD; E. Sally Rogers, ScD  
**Public Contact:** 617/353-3549; Fax: 617/353-7700

**Project Number:** H133P070001

**Start Date:** September 01, 2007

**Length:** 60 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 07 \$149,986; FY 08 \$149,994; FY 09 \$149,995

**Abstract:** This project conducts two consecutive cycles of 2.25 year postdoctoral fellowship in psychiatric rehabilitation research, offered to six fellows over the course of the project. The recruitment efforts target consumers, with the expectation of selecting one or more consumers. In order to optimize the training experience, three fellows are in residence during each cycle. While the fellowship is designed to provide a broad-based intensive training in psychiatric rehabilitation research, the six fellows develop a particular expertise in conducting recovery-oriented research given the current research profile of the Center for Psychiatric Rehabilitation at Boston University. Through a variety of training modalities, fellows acquire competencies in the following areas: psychiatric rehabilitation and recovery framework; consumer advocacy and self-help; research design/methodology; statistics; computer literacy; conduct of applied rehabilitation research; and grant and professional writing. The goals of this project are to: recruit six individuals with doctoral-level clinical training who are committed to pursuing a career in psychiatric rehabilitation research; provide fellows with intensive state-of-the-art didactic experience as well as exposure to collegial collaboration relevant to psychiatric rehabilitation research; provide fellows with a research practicum consisting of a mentored participation in an ongoing project in psychiatric rehabilitation or recovery, development and implementation of an original pilot study and preparation of a grant submission and publications relevant to each fellow's area of research interest; and evaluate the overall research training program, including recruitment, didactic training, and research practicum.

Advanced Rehabilitation Research Training Projects  
Michigan

## The UMHS/AACIL Rehabilitation Research Training Program

---

University of Michigan  
Department of Physical Medicine and Rehabilitation  
Rehabilitation Psychology  
325 East Eisenhower, Suite 100  
Ann Arbor, MI 48108  
dgtate@umich.edu  
www.med.umich.edu/pmr/edu/arrt.htm

**Principal Investigator:** Denise G. Tate, PhD, ABPP, FACRM

**Public Contact:** 734/936-7052; Fax: 734/936-7048

**Project Number:** H133P030004

**Start Date:** September 01, 2003

**Length:** 60 months

**NIDRR Officer:** Phillip Beatty, PhD

**NIDRR Funding:** FY 03 \$150,000; FY 04 \$150,000; FY 05 \$150,000; FY 06 \$150,000; FY 07 \$150,000; FY 08 (No-cost extension through 08/31/2009); FY 09 (No-cost extension through 2/28/2010)

**Abstract:** The University of Michigan Health System (UMHS), Department of Physical Medicine and Rehabilitation, and the Ann Arbor Center for Independent Living (AACIL) with consulting faculty from Michigan State University (MSU) and Wayne State University (WSU) have developed a training program to train six PhD and ten MD fellows. Training opportunities include the existing research programs funded at UMHS, the academic doctoral level rehabilitation counseling program at MSU, the multidisciplinary rehabilitation program at WSU, and opportunities for research training at a community-based agency, the AACIL. Emphasizing the consumer-scientist-practitioner model, this multidisciplinary research training program utilizes faculty and resources from 3 universities and from the AACIL to train 16 new fellows. Fellows and resident trainees may select from a curriculum that focuses on three content areas: (1) health rehabilitation outcomes; (2) independent living and community re-integration; and (3) social/environmental aspects of rehabilitation, including assistive technology.

Advanced Rehabilitation Research Training Projects  
Michigan

## The UMHS/AACIL Rehabilitation Research Training Program

---

University of Michigan  
Department of Physical Medicine and Rehabilitation  
325 East Eisenhower, Suite 100  
Ann Arbor, MI 48108  
kmorefie@umich.edu  
[www.med.umich.edu/pmr/edu/arrt.htm](http://www.med.umich.edu/pmr/edu/arrt.htm)

**Principal Investigator:** Denise G. Tate, PhD, ABPP, FACRM

**Public Contact:** Kay Morefield 734/763-5600; Fax: 734/936-7048

**Project Number:** H133P090008

**Start Date:** September 01, 2009

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 09 \$149,999

**Abstract:** This training program aims to train a cadre of researchers to produce new knowledge that will advance evidence-based practice and improve the lives of persons with disabilities. Training opportunities include the existing research programs funded at University of Michigan Health System (UMHS), the academic doctoral-level rehabilitation counseling program at Michigan State University (MSU), the multidisciplinary rehabilitation program at Wayne State University (WSU), and opportunities for research training at a community-based agency, the Ann Arbor Center for Independent Living (AACIL). Emphasizing the consumer-scientist-practitioner model, this multidisciplinary research training program utilizes faculty and resources from 3 universities and from the AACIL to train 16 new fellows. Training opportunities include participation in existing research programs funded by NIDRR, NIH, and the CDC at the University of Michigan as well as opportunities for conducting research in conjunction with our community partner, the AACIL. A variety of didactic and practical experiences make up this research training program. These include participation in academic courses available at the University of Michigan, research seminars, presentations and lectures at meetings and national conferences, and an opportunity to work collaboratively on research projects being conducted at many sites. Fellows and trainees may select from a focus on three content areas: (1) community participation, including social and environmental factors effecting independent living; (2) health and function; and (3) assistive technologies. Cross cutting themes covered in all content areas include health disparities and community needs of underserved populations with disabilities, women's health, and aging with disability. Special efforts are made to recruit and train researchers from racial and ethnic minority backgrounds as well as individuals with disabilities. Through this research training experience, fellows and resident trainees acquire and enhance specific research skills; learn how to collaborate effectively across important rehabilitation areas and disciplines; and demonstrate a capacity to apply the results of research to the problems of persons with disabilities.

The objectives of this research training are: (1) to provide training to qualified individuals within a multidisciplinary perspective to evaluate research quality and to produce excellence; (2) to orient training toward advancement of science and addressing the needs of persons with disabilities through

development of evidence-based practice and community-based participatory research; (3) to prepare researchers to conduct studies in new settings, including home, schools, and community-based organizations; (4) to foster research skills that will result in successful research proposals addressing issues relevant to persons with disabilities; and (5) to promote productive partnerships and collaborations that lead to successful careers in areas with a shortage of qualified researchers.

Advanced Rehabilitation Research Training Projects  
Missouri

**Health Activity Rehabilitation Research Training Center (HARRTC)**

---

University of Missouri/Columbia  
Department of Physical Medicine and Rehabilitation  
DC046.00  
One Hospital Drive  
Columbia, MO 65212  
holtmeyerk@health.missouri.edu  
hartc.missouri.edu

**Principal Investigator:** Jerry C. Parker, PhD 573/884-0042

**Public Contact:** Kim Holtmeyer, Grant Administrator 573/884-1499; Fax: 573/884-4540; 573/884-3020

**Project Number:** H133P050005

**Start Date:** September 01, 2005

**Length:** 60 months

**NIDRR Officer:** Scott Brown, PhD

**NIDRR Funding:** FY 05 \$150,000; FY 06 \$150,000; FY 07 \$150,000; FY 08 \$150,000; FY 09 \$150,000

**Abstract:** The specific aim of the Health Activity Rehabilitation Research Training Center is to prepare postdoctoral trainees with comprehensive, collaborative research skills requisite for a career in independent rehabilitation research. A key outcome of this project is a sustainable, replicable training model that enhances the flow of basic research findings to clinical settings, thereby enhancing rehabilitation strategies for individuals with disabilities. One-third of project fellows are selected from underrepresented populations, including individuals with disabilities. Postdoctoral fellows study a rigorous, two-year core curriculum in advanced scientific methodology, and engage in multidisciplinary training experiences through: (1) collaborating agencies; (2) campus and community settings; (3) research mentors (scientists) from Biomedical Sciences, Physiology and Pharmacology, Nutrition Sciences, and Physical Therapy; and (4) rehabilitation clinician-mentors. The training program incorporates didactic, classroom, and hands-on laboratory training. By the conclusion of training, postdoctoral fellows will have completed a supervised independent research project, prepared scientific manuscripts, presented their research findings at national meetings, and submitted their capstone project, an extramural grant application. This program offers fellows a dual model of mentorship: a clinical mentor and a scientist research mentor. In addition, a graduate-thesis research model provides fellows with first-hand research experience.

Advanced Rehabilitation Research Training Projects  
New Jersey

## Advanced Psychiatric Rehabilitation Research on Employment and Community Integration

---

University of Medicine and Dentistry of New Jersey  
School of Health Related Profession  
1776 Raritan Road  
Scotch Plains, NJ 07076-2997  
kgill@umdnj.edu

**Principal Investigator:** Kenneth J. Gill, PhD

**Public Contact:** 908/889-2438

**Project Number:** H133P050006

**Start Date:** September 01, 2005

**Length:** 60 months

**NIDRR Officer:** Bonnie Gracer

**NIDRR Funding:** FY 05 \$149,999; FY 06 \$149,999; FY 07 \$150,000; FY 08 \$150,000; FY 09 \$150,000

**Abstract:** This project offers a postdoctoral research training program in the areas of community integration, natural supports including “circles of support”, and rehabilitation readiness. Fellows participate in a variety of mentoring and didactic experiences provided by research mentors from UMDNJ and the University of Pennsylvania. Fellows have the opportunity to continue to develop their own long-term research program while participating in the research activities of their mentor. They regularly present at departmental colloquia, and national and state conferences. Fellows develop grant proposals and prepare articles for publication in peer-reviewed journals. Both didactic and field training in psychiatric rehabilitation research focus on scientific methodology including experimental, quasi-experimental, and correlational and survey methods. Fellows participate in research in one of the following research areas: (1) comparing alternative job retention strategies including circle of support approach to a diversity of strategies; (2) the reliability and validity of rehabilitation readiness measures and indicators including their relationship to employment outcomes; and (3) a variety of community integration projects on the factors that influence community integration, public policy affecting the community, interventions designed to promote community integration through case management, and Internet-based self-help or supported education provided by peers. Partner institutions include the University of Pennsylvania RRTC on Community Integration, UPenn School of Social Work, Indiana University-Purdue University School of Psychology, Boston University Sargent College of Health & Rehabilitation and the Veterans Affairs of New Jersey.

**Advanced Rehabilitation Research Training Projects**  
New Jersey

**Advanced Rehabilitation Research Training Center on Neuro-  
musculoskeletal Rehabilitation**

---

University of Medicine and Dentistry of New Jersey/New Jersey Medical School (UMDNJ/NJMS)  
and  
Kessler Medical Rehabilitation Research and Education Center (KMRREC)  
1199 Pleasant Valley Way  
West Orange, NJ 07052

**Principal Investigator:** Peter Barrance, PhD  
**Public Contact:** 973/324-3550; Fax: 973/243-6984

**Project Number:** H133P070007

**Start Date:** September 01, 2007

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 07 \$149,559; FY 08 \$149,847; FY 09 \$149,723

**Abstract:** This post-doctoral research interdisciplinary training program on neuro-musculoskeletal rehabilitation provides postdoctoral research opportunities to qualified individuals interested in research, and academic careers related to rehabilitation research. Over the course of the program, nine postdoctoral fellows plan, conduct, and disseminate research, and may choose to conduct research in neuro-musculoskeletal rehabilitation. Each ARRT fellow conducts rehabilitation research for a two-year term. Anticipated measurable outcomes include published research studies, presentations at national scientific meetings, submission of grant proposals, completion of research related courses, training in techniques of dissemination, and the development of interdisciplinary research networks. In addition to participation in research activities, each fellow completes a series of core courses and directed study on interdisciplinary research, HIPAA, and the ethics for the recruitment of human subjects in rehabilitation research. The activities of each postdoctoral fellow are directed and monitored by a fellowship mentor with a demonstrated ability to implement, conduct, and disseminate the results of research investigations contributing to the advancement of rehabilitation science. Core faculty involved in the program represent departments/divisions of physical therapy, occupational therapy, rehabilitation science, biomedical engineering, biomechanics, computer science, and mechanical-aerospace engineering. The goal of this project is to provide young investigators a stimulating environment, with an atmosphere of enthusiasm tempered by rigorous methodology that instills the desire to improve the everyday lives of persons with disabilities.

Advanced Rehabilitation Research Training Projects  
New Jersey

**Advanced Rehabilitation Research Training Center on Neurocognitive  
Rehabilitation**

---

University of Medicine and Dentistry  
New Jersey Medical School  
300 Executive Drive, Suite 10  
West Orange, NJ 07052  
nchiaravalloti@kesslerfoundation.net  
www.kesslerfoundation.org

**Principal Investigator:** Nancy D. Chiaravalloti, PhD 973/530-3640

**Public Contact:** 973/530-3600; Fax: 973/736-7886

**Project Number:** H133P090009

**Start Date:** July 01, 2009

**Length:** 60 months

**NIDRR Officer:** Leslie J. Caplan, PhD

**NIDRR Funding:** FY 09 \$149,689

**Abstract:** The ARRT on Neurocognitive Rehabilitation provides young scientists with the multidisciplinary skills necessary to continue to advance the scientific knowledge of neurological illness and injury, its impact on everyday life, vocational functioning and brain functioning and effective means of identifying new rehabilitation interventions. This is accomplished by providing multiple training opportunities for scientists and clinicians in clinically-focused rehabilitation research. The ARRT supports the training of post-doctoral fellows in neuropsychology, cognitive neuroscience, outcomes, and clinical rehabilitation. The program provides advanced multidisciplinary rehabilitation research and training opportunities for clinical researchers including: (1) clinically trained PhD specialists (e.g. neuropsychologists, rehabilitation psychologists), (2) MD specialists in psychiatry or behavioral neurology, and (3) non-clinical cognitive neuroscientists with a commitment to conduct clinical rehabilitation research. The training program is based on an individualized Research Training Plan designed by the trainee in close collaboration with his/her mentors. Training activities: (1) are relevant to the fellow's strengths, weaknesses, and interests; (2) provide guidance, mentoring, and technical knowledge; (3) develop fellows as independent researchers; and (4) lead to the publication of research findings.

**Advanced Rehabilitation Research Training Projects**  
New York

**Advanced Rehabilitation Research Training Program**

---

Mount Sinai School of Medicine  
Department of Rehabilitation Medicine  
One Gustave L. Levy Place, Box 1240  
New York, NY 10029  
teresa.ashman@mssm.edu  
www.mssm.edu/tbinet

**Principal Investigator:** Theresa Ashman, PhD  
**Public Contact:** 212/241-2549; Fax: 212/348-5901

**Project Number:** H133P050004

**Start Date:** September 01, 2005

**Length:** 60 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 05 \$149,999; FY 06 \$149,999; FY 07 \$149,999; FY 08 \$149,999; FY 09 \$149,999

**Abstract:** This Advanced Rehabilitation Research Training Program increases research capacity by training ten doctoral-level professionals interested in pursuing research careers in rehabilitation of individuals with traumatic brain injury (TBI) and spinal cord injury (SCI). In addition to expanding their research expertise, fellows their knowledge of participatory action research and quantitative and qualitative research methods, and actively participate with an interdisciplinary team of rehabilitation researchers. Fellows are taught approaches to performance management and methods of evidence-based practice review. Research capacity building of the fellows is facilitated via mentoring on independent research projects and clinical supervision in interdisciplinary research experiences. To ensure sensitivity to issues germane to individuals with TBI and SCI, fellows spend a portion of their time providing clinical interventions or participating in structured community experiences. Performance measures are utilized to monitor progress of the program and its fellows, with oversight provided by an executive committee and an advisory board. By completion of training, fellows are expected to have completed a minimum of one independent research project, presented the results of their research to professional and consumer groups, submitted their findings for publication in peer-reviewed journals, and participated in writing extramural grant proposals.

## Advanced Rehabilitation Research Training Projects

New York

# Advanced Rehabilitation Research and Disability Policy Training Center

---

Syracuse University  
School of Education  
259 Huntington Hall  
Syracuse, NY 13244  
jlbellin@syr.edu

**Principal Investigator:** James L. Bellini, PhD

**Public Contact:** 315/443-9655

**Project Number:** H133P070004

**Start Date:** August 01, 2007

**Length:** 60 months

**NIDRR Officer:** Dawn Carlson, PhD, MPH

**NIDRR Funding:** FY 07 \$149,986; FY 08 \$149,994; FY 09 \$149,969

**Abstract:** This project provides advanced training in rehabilitation research outcomes and disability policy research for seven trainees over the life of the project. The project offers an individualized training program to accommodate the needs of various postdoctoral researchers and others with advanced degrees who hold leadership positions in rehabilitation research and related policy areas. Participants can pursue one of two traineeships: full-time, two-year (four trainees) and full-time, one-year (three trainees). The project offers a set of core training experiences, including: advanced rehabilitation research seminar; individual mentoring in research and grant proposal-writing; a practicum in research ethics and human subjects protections; and a practicum in the peer-review process and editorial decision-making. Trainees also select advanced training in one of two strands: rehabilitation outcomes research and disability policy research. Each strand includes 9-15 credits of coursework in advanced rehabilitation research or disability policy research (with a Certificate of Advanced Study in Disability Studies) and an internship at a rehabilitation or disability policy research project. Trainee capstone experiences include the preparation and submission of peer-reviewed articles, conference papers, or grant proposals as well as the preparation of research training packages for dissemination through the project.

Advanced Rehabilitation Research Training Projects  
Pennsylvania

**Career Advancement for Engineers in the Science of Rehabilitation  
(CAESOR)**

---

University of Pittsburgh  
School of Health and Rehabilitation Sciences  
Rehabilitation Sciences and Technology  
4020 Forbes Tower  
Pittsburgh, PA 15260

**Principal Investigator:** Dan Ding, PhD  
**Public Contact:** 412/954-5278; Fax: 412/954-5340

**Project Number:** H133P090010

**Start Date:** October 01, 2009

**Length:** 60 months

**NIDRR Officer:** Shelley Reeves

**NIDRR Funding:** FY 09 \$149,972

**Abstract:** The goal of the Career Advancement for Engineers in the Science of Rehabilitation (CAESOR) program is to increase the number of rigorously trained, extramurally competitive, and scientifically productive engineering researchers in the field of rehabilitation science and engineering. To that end, CAESOR provides 2 years of advanced rehabilitation research training for 8-10 highly qualified postdoctoral trainees from basic engineering disciplines who are committed to a career in rehabilitation research. CAESOR utilizes a rehabilitation research team consisting of a focused cadre of mentors with interdisciplinary expertise in engineering, clinical, and psychosocial disciplines to provide the trainees with a balanced exposure to research, clinical, and academic approaches to rehabilitation and disability issues. The comprehensive training provides: (1) immersion in a mentored rehabilitation research experience by matching postdoctoral trainees with highly successful research mentors; (2) complementary didactics including core and individualized components that teach and enhance the critical skills necessary for a successful research career (such as grant writing, ethics, and issues in human subject research), and topics that are not usually covered in traditional engineering curricula (such as medical and social aspects of disability, research methods, and statistical analysis); (3) involvement in mentored clinical experience to gain clinical insights and better understanding of clinical decision making process; and (4) participation in a community practicum to understand the real user needs and contextual constraints of technology. The capstone experience for the postdoctoral trainees is the submission of an extramural research proposal.

## Advanced Rehabilitation Research Training Projects

Texas

### Interdisciplinary Rehabilitation Research Training Program

---

University of Texas Medical Branch  
301 University Boulevard  
Galveston, TX 77555-1137  
kottenba@utmb.edu  
www.sahs.utmb.edu/rehab

**Principal Investigator:** Kenneth J. Ottenbacher, PhD

**Public Contact:** Beth Cammarn 409/747-1637; Fax: 409/747-1638

**Project Number:** H133P040003

**Start Date:** July 01, 2004

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 04 \$145,686; FY 05 \$145,686; FY 06 \$145,686; FY 07 \$145,686; FY 08 \$148,023; FY 09 (No-cost extension through 6/30/2010)

**Abstract:** This ARRT program provides postdoctoral research opportunities to qualified individuals interested in clinical and academic careers related to rehabilitation research. Three postdoctoral fellows must plan, conduct, and disseminate research in one of the following areas: cognitive/neurological rehabilitation, applied physiology/biomechanics of rehabilitation, or geriatric rehabilitation. Each rehabilitation research fellow selects one of the three research areas and conducts clinical investigations for up to three years. Outcomes include published research studies, presentations at national scientific meetings, submission of grant proposals, completion of research related courses, training in techniques of dissemination, and the development of interdisciplinary research networks. In addition to participating in clinical research activities, each fellow completes a series of core courses and directed study related to interdisciplinary research and the ethics associated with scientific inquiry and the use of human subjects in rehabilitation research. All fellows participate in a practicum experience involving persons with disabilities and their families/caregivers organized through the Transitional Learning Center. The activities of each postdoctoral fellow are directed and monitored by a fellowship supervisor with a demonstrated ability to implement, conduct, and disseminate the results of research investigations contributing to the advancement of rehabilitation science.

**Advanced Rehabilitation Research Training Projects**  
Texas

**Advanced Rehabilitation Research Training**

---

Baylor College of Medicine  
Department of Physical Medicine and Rehabilitation  
One Baylor Plaza, Room 600d  
Houston, TX 77030

**Principal Investigator:** Faye C. Tan, MD; Angelle Sander, PhD

**Public Contact:** 713/873-3875; Fax: 713/873-3874

**Project Number:** H133P080007

**Start Date:** July 01, 2008

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 08 \$150,000; FY 09 \$150,000

**Abstract:** The purpose of this program is to train post-doctoral fellows in the skills necessary to become independent investigators in rehabilitation. Fellows must be competent in each major facet of the research process—problem identification, analysis of the current state of knowledge, hypothesis generation based on familiarity with applicable theory, research project design, mastery of relevant techniques and instrumentation, statistical analysis, interpretation of findings, and preparation of technical reports and publications. Through this program, fellows develop research expertise in one of two potential training tracts: (1) traumatic brain injury/stroke or (2) spinal cord injury. For each track, the International Classification of Functioning, Disability and Health (ICF) cell-to-society model has been applied so that the fellow can select from any portion of the spectrum for his/her area of research focus. Mentors for this program develop an individualized training plan for each fellow that includes (a) participation in research projects of the primary and secondary mentors, (b) development and implementation of an independent research project, and (c) required didactic course work drawn from the Baylor College of Medicine Fundamentals of Clinical Investigation within the Clinical Scientist Training Program (K-30) and the Department of Physical Medicine and Rehabilitation.

**Advanced Rehabilitation Research Training Projects**  
Virginia

**Advanced Research Training Program**

---

Virginia Commonwealth University  
Department of Medicine and Rehabilitation  
Box 980542  
Richmond, VA 23298-0542  
[www.npy.pmr.vcu.edu/arrt/overview.htm](http://www.npy.pmr.vcu.edu/arrt/overview.htm)

**Principal Investigator:** Jeffrey S. Kreutzer, PhD 804/828-9055

**Public Contact:** Lee Livingston 804/828-3706; Fax: 804/828-2378

**Project Number:** H133P040006

**Start Date:** October 01, 2004

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 04 \$150,000; FY 05 \$150,000; FY 06 \$150,000; FY 07 \$150,000; FY 08 \$150,000; FY 09 (No-cost extension through 8/31/2010)

**Abstract:** This project is an advanced rehabilitation research training (ARRT) program for individuals with advanced degrees who are committed to a career in rehabilitation research with a focus on neurobehavioral recovery and intervention. Training and research activities address brain injury, aneurysms, brain tumors, and other neurological disorders. Individualized research training plans emphasizing scientific rigor guide fellows' choices of training activities. Outstanding mentors, didactic experiences, and collaborative and independent research activities provide the foundation for the VCU ARRT program. Mentors include internationally and nationally renowned, distinguished scientists from the fields of rehabilitation medicine, neuropsychology, psychiatry, neurosurgery, and vocational rehabilitation. Core courses on ethics, conduct in scientific research, and grant writing are complemented by grand rounds and graduate courses. All fellows must complete and submit a grant application during the second year of their fellowship.

Advanced Rehabilitation Research Training Projects  
Virginia

**Advanced Research Training Program in Neurobehavioral Recovery  
and Intervention**

---

Virginia Commonwealth University  
Department of Physical Medicine and Rehabilitation  
Box 980542  
Richmond, VA 23298-0542  
[www.npy.pmr.vcu.edu/arrt/overview.htm](http://www.npy.pmr.vcu.edu/arrt/overview.htm)

**Principal Investigator:** Jeffrey S. Kreutzer, PhD 804/828-9055

**Public Contact:** Juan Carlos Arango-Lasprilla, PhD 804/828-8797; Fax: 804/828-2378

**Project Number:** H133P090013

**Start Date:** September 01, 2009

**Length:** 60 months

**NIDRR Officer:** Kenneth D. Wood, PhD

**NIDRR Funding:** FY 09 \$148,985

**Abstract:** This project is an advanced rehabilitation research training (ARRT) program for individuals with advanced degrees who are committed to a career in rehabilitation research with a focus on neurobehavioral recovery and intervention. Training and research activities address brain injury, aneurysms, brain tumors, and other neurological disorders. Individualized research training plans emphasizing scientific rigor guide fellows' choices of training activities. Outstanding mentors, didactic experiences, and collaborative and independent research activities provide the foundation for the VCU ARRT program. Mentors include internationally and nationally renowned, distinguished scientists from the fields of rehabilitation medicine, neuropsychology, psychiatry, neurosurgery, and vocational rehabilitation. Core courses on ethics, conduct in scientific research, and grant writing are complemented by grand rounds and graduate courses. All fellows must complete and submit a grant application during the second year of their fellowship.

Advanced Rehabilitation Research Training Projects  
Washington

**University of Washington Advanced Rehabilitation Research Training**

University of Washington  
Department of Rehabilitation Medicine  
1959 NE Pacific Street; Box 356490  
Seattle, WA 98195-6490

**Principal Investigator:** Deborah Kartin, PT PhD; Kurt Johnson, PhD

**Public Contact:** TBA 206/598-5338; Fax: 206/685-3244

**Project Number:** H133P080008

**Start Date:** July 01, 2008

**Length:** 60 months

**NIDRR Officer:** Theresa San Agustin, MD

**NIDRR Funding:** FY 08 \$149,491; FY 09 \$149,411

**Abstract:** The primary goal of the UW-ARRT is to increase the number of successful, independent rehabilitation researchers who not only understand their own area of focus, but also have a working knowledge of other related Rehabilitation Science fields and have experience in interacting with experts who are knowledgeable in these other areas. To that end, UW-ARRT provides advanced rehabilitation research training for five to six highly qualified postdoctoral trainees to enable them to become successful rehabilitation researchers, and to conduct formative and summative evaluation of the training. UW-ARRT focuses on development of rehabilitation researchers with emphasis on design and implementation of rehabilitation research, dissemination of research, and grant writing. The comprehensive training provides: (1) immersion in a mentored rehabilitation research experience by matching postdoctoral trainees with highly successful rehabilitation researchers and (2) complementary didactics (Core and Individualized) to support trainees' development as rehabilitation researchers. Core Curriculum is built on an on-going bimonthly seminar specifically designed to: (1) teach and enhance the critical skills necessary for a successful research career (a general research skills seminar to be held once/month), and (2) provide for interaction among trainees interested in developing successful research careers in Rehabilitation Sciences and an interdisciplinary cohort of mentors/advisors who have active and successful Rehabilitation Sciences research programs. The Individualized Didactic Curriculum allows a postdoctoral trainee to enroll, as needed, in additional coursework in research methods, statistical analysis, and rehabilitation science.

Advanced Rehabilitation Research Training Projects  
Wisconsin

## Clinician Researchers and Engineers: Advanced Rehabilitation Research Training

---

Marquette University  
Orthopaedic and Rehabilitation Engineering Center  
735 North 17th Street  
P.O. Box 1881  
Milwaukee, WI 53201  
depps@mcw.edu  
www.orec.org

**Principal Investigator:** Gerald F. Harris, PhD 414/288-0698

**Public Contact:** Deborah Epps, Project Administrator 414/288-0696; Fax: 414/288-0713

**Project Number:** H133P040008

**Start Date:** September 01, 2004

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 04 \$150,000; FY 05 \$150,000; FY 06 \$150,000; FY 07 \$150,000; FY 08 \$150,000; FY 09 (No-cost extension through 8/31/2010)

**Abstract:** This program provides advanced education and training in rehabilitation research to selected engineers and clinician researchers. The overall goal is to develop expertise, enthusiasm, and productivity in rehabilitation research which results in an increase in the number of rehabilitation-trained physicians and engineers. Fellows are trained to conduct independent, transdisciplinary research on problems related to disability and rehabilitation. The specific goal is to produce productive career researchers. The program is specifically designed to give the postdoctoral trainees the skills needed to become independent rehabilitation researchers. The postdoctoral trainees experience a program designed to provide each candidate with a unique set of capabilities to succeed as a rehabilitation researcher. The capstone experience for the postdoctoral trainees is the submission of an extramural research proposal. Three research areas have been selected that provide opportunities to participate in advanced-level research: motion analysis, spasticity, and accessible medical instrumentation. Four clinical areas give participants clinical experiences to link to their research experiences: spasticity management, pain management, spinal cord injury, and motion analysis. As part of the professional development of the postdoctoral trainees and to increase the exposure to rehabilitation research, cross-disciplinary teaching is encouraged. At the completion of the program, all trainees have completed a directed independent research project, written and submitted scientific manuscripts, prepared a complete extramural grant proposal, and gained experience in managing a functional research team.

## Advanced Rehabilitation Research Training Projects

Wisconsin

### **Advanced Rehabilitation Research Training in Pediatric Mobility**

---

Marquette University  
Orthopaedic and Rehabilitation Engineering Center  
735 North 17th Street P.O. Box 1881  
Milwaukee, WI 53201  
depps@mcw.edu  
www.orec.org

**Principal Investigator:** Gerald F. Harris, PhD 414/288-0698

**Public Contact:** Deborah Epps, Project Administrator 414/288-0696; Fax: 414/288- 0713

**Project Number:** H133P080005

**Start Date:** September 01, 2008

**Length:** 60 months

**NIDRR Officer:** Thomas Corfman

**NIDRR Funding:** FY 08 \$150,000; FY 09 \$150,000

**Abstract:** The goal of this project is to develop in-depth expertise, enthusiasm, and productivity in rehabilitation research to increase the number of physicians and engineers qualified to conduct independent, transdisciplinary research on problems related to disability, rehabilitation, and pediatric mobility. The program is specifically designed to give postdoctoral trainees the skills needed to become productive, independent rehabilitation researchers. The research component of the training program consists of 3 mentorship teams capable of providing a 20 - 25 percent support effort on a continued basis. Qualified trainees are enrolled in the research training program for 24 to 36 months. Three research areas (RAs) support opportunities for career oriented contributions to the field of pediatric mobility. The RAs are Skeletal and Connective Tissue Biology, Assistive Devices, and Foot and Ankle Mobility. Fellowship research requirements include pilot study completion and refinement, multiple journal article submissions, and completion of extramural proposal(s). The capstone experience for the postdoctoral trainees is the completion of a sponsored workshop in their field of study with nationally recognized leaders in attendance. A team of mentors with qualifications specific to each of these RAs support candidates entering the program to enhance their current skills and offer additional, high level training and experience.

## Subject Index

---



No subject index was created for this version of the NIDRR Program Directory. The Directory remains in database format at [www.naric.com/research/pd](http://www.naric.com/research/pd). This format is considerably more effective for subject-oriented organization of the material in the Directory.

For assistance in searching the Program Directory database, contact the staff at NARIC at 800/346-2742 or email [jchaiken@heitechservices.com](mailto:jchaiken@heitechservices.com)



## Grantees

---



AbleLink Technologies, Inc.	H133S090012	Colorado Springs, CO	3-59
AbleLink Technologies, Inc.	H133S090027	Colorado Springs, CO	3-60
AbleLink Technologies, Inc.	H133S080066	Colorado Springs, CO	3-72
Advanced Medical Electronics Corporation	H133S080068	Maple Grove, MN	3-76
Advanced Medical Electronics Corporation	H133S090130	Maple Grove, MN	3-77
Advanced Medical Electronics Corporation	H133S090069	Maple Grove, MN	3-67
Albert Einstein Healthcare Network	H133G060086	Philadelphia, PA	2-87
Albert Einstein Healthcare Network	H133G070143	Elkins Park, PA	2-84
Albert Einstein Healthcare Network	H133G080066	Elkins Park, PA	2-85
Albert Einstein Healthcare Network	H133A070040	Elkins Park, PA	2-37
American Foundation for the Blind	H133G090026	Huntington, WV	3-54
Aspen Systems, Inc.	H133S090061	Marlborough, MA	3-66
Assaf Y. Dvorkin, PhD	H133F080010	Chicago, IL	8-14
Assistech Systems, LLC	H133S090138	Eugene, OR	4-42
Barbara Altman	H133F060011	Rockville, MD	8-12
Baylor College of Medicine	H133P080007	Houston, TX	8-39
Baylor College of Medicine	H133G080042	Houston, TX	4-41
Boston University	H133G090046	Boston, MA	4-26
Boston University	H133B040026	Boston, MA	4-7
Boston University	H133A050006	Boston, MA	6-4
Boston University	H133G070140	Boston, MA	4-25
Boston University	H133P070001	Boston, MA	8-27
Boston University	H133G060071	Boston, MA	4-24
Boston University	H133B090014	Boston, MA	1-5
Boston University Medical Campus	H133P050001	Boston, MA	8-26
Boston University Medical Center	H133N060024	Boston, MA	2-53
Brian C. Glaister	H133F090050	Seattle, WA	8-21
Carnegie Mellon University	H133E080019	Pittsburgh, PA	3-20
Carolinas HealthCare System	H133A070042	Charlotte, NC	2-32
Carolinas Rehabilitation	H133A080035	Charlotte, NC	2-33
Charmtech	H133S090065	Cupertino, CA	3-57
Children's Hospital Medical Center	H133B090010	Cincinnati, OH	2-9
Children's Hospital	H133B060012	Boston, MA	4-8
Children's Hospital Medical Center	H133G050239	Cincinnati, OH	4-34
Children's Hospital Medical Center	H133G060167	Cincinnati, OH	4-35
Christina Papadimitriou, PhD	H133F090053	Chicago, IL	8-18
Clarke School for the Deaf	H133G060116	Northampton, MA	3-44
College of Health & Rehabilitation Sciences: Sargent College	H133G060180	Boston, MA	4-21
Cornell University	H133A060088	Ithaca, NY	7-4
Cornell University	H133B031111	Ithaca, NY	5-5
Cornell University	H133B040013	Ithaca, NY	1-9
Craig Hospital	H133N060005	Englewood, CO	2-49
Craig Hospital	H133G090013	Englewood, CO	2-64

Craig Hospital	H133A060103	Englewood, CO	2-18
Craig Hospital	H133A060038	Englewood, CO	2-19
Craig Hospital	H133A070022	Englewood, CO	2-20
CreateAbility Concepts, Inc.	H133S090099	Marion, IN	3-63
CreateAbility Concepts, Inc.	H133S080075	Indianapolis, IN	3-75
Criterion Health, Inc.	H133S090013	Terre Haute, IN	3-64
CUNY Research Foundation	H133B080012	New York, NY	5-6
Dancing Dots Braille Music Technology, L.P.	H133S070089	Valley Forge, PA	3-82
Dartmouth College	H133A080063	Lebanon, NH	8-8
Dartmouth College	H133G090206	Hanover, NH	1-23
Dartmouth College	H133G050230	Concord, NH	1-22
Drexel University	H133G060254	Philadelphia, PA	2-86
Duke University	H133A060062	Durham, NC	3-28
Duke University	H133E030018	Durham, NC	3-16
Duke University	H133E080011	Durham, NC	3-17
Feinberg School of Medicine	H133B040032	Chicago, IL	5-3
Gallaudet University	H133G060065	Washington, DC	3-33
Gallaudet University	H133E080006	Washington, DC	3-6
Georgia Institute of Technology	H133E080003	Atlanta, GA	3-9
Georgia Institute of Technology	H133E060061	Atlanta, GA	3-7
Georgia Institute of Technology Center for Assistive Technology and Environmental Access (CATEA)	H133E070026	Atlanta, GA	3-8
Georgia Institute of Technology Center for Assistive Technology and Environmental Access (CATEA)	H133G070063	Atlanta, GA	3-36
HeiTech Services, Inc.	ED-08-CO-0095	Landover, MD	6-11
Hunter College of CUNY	H133B040014	New York, NY	1-11
Institute for Human Centered Design	H133A060092	Boston, MA	7-3
James E. Graham, PhD	H133F090030	Galveston, TX	8-20
JFK Johnson Rehabilitation Institute	H133A031713	Edison, NJ	2-27
JFK Johnson Rehabilitation Institute	H133A070030	Edison, NJ	2-28
Johns Hopkins School of Medicine	H133A070045	Baltimore, MD	2-23
Kent State University	H133G080158	Kent, OH	4-36
Kessler Foundation	H133G080136	West Orange, NJ	3-46
Kessler Foundation	H133G090078	West Orange, NJ	2-81
Kessler Foundation Research Center	H133A070037	West Orange, NJ	2-29
Kessler Medical Rehabilitation Research and Education Corporation (KMRREC)	H133G070138	West Orange, NJ	2-80
Kessler Medical Rehabilitation Research and Education Corporation (KMRREC)	H133N060022	West Orange, NJ	2-55
Koronis Biomedical Technologies Corporation	H133S090055	Maple Grove, MN	3-68
Learnimation, LLC	H133S090104	Brooklyn, NY	3-69

Life Technologies, LLC	H133S080077	Eugene, OR	3-81
Life Technologies, LLC	H133S070096	Eugene, OR	3-80
Louisiana State University	H133A080069	Baton Rouge, LA	4-15
Madonna Rehabilitation Hospital	H133G070209	Lincoln, NE	2-78
Marquette University	H133P040008	Milwaukee, WI	8-43
Marquette University	H133P080005	Milwaukee, WI	8-44
Marquette University	H133G060252	Milwaukee, WI	2-96
Mayo Clinic	H133A070013	Rochester, MN	2-26
Medical College of Wisconsin	H133G060142	Milwaukee, WI	3-55
Medical College of Wisconsin	H133G060155	Milwaukee, WI	3-56
Medical University of South Carolina	H133G060126	Charleston, SC	2-89
Medical University of South Carolina	H133A080064	Charleston, SC	8-9
Medical University of South Carolina	H133G050165	Charleston, SC	2-88
Medical University of South Carolina	H133G090059	Charleston, SC	2-91
Medical University of South Carolina	H133B090005	Charleston, SC	2-11
MedStar Research Institute	H133B090002	Washington, DC	2-6
Meeting the Challenge, Inc.	H133A060079	Colorado Springs, CO	7-11
Memorial Herman/The Institute for Rehabilitation and Research (TIRR)	H133G070222	Houston, TX	2-92
MetroHealth System	H133N060017	Cleveland, OH	2-57
Mississippi State University	H133A070001	Mississippi State, MS	1-16
Motion Control, Inc.	H133S070084	Salt Lake City, UT	3-83
Motion Control, Inc.	H133S090131	Salt Lake City, UT	2-97
Motion Control, Inc.	H133S090067	Salt Lake City, UT	3-71
Mount Sinai School of Medicine	H133A080053	New York, NY	2-31
Mount Sinai School of Medicine	H133B040033	New York, NY	2-8
Mount Sinai School of Medicine	H133P050004	New York, NY	8-35
Mount Sinai School of Medicine	H133A070033	New York, NY	2-30
Mount Sinai School of Medicine	H133N060027	New York, NY	2-56
National Public Radio	H133G060187	Washington, DC	3-32
National Public Radio	H133G070093	Washington, DC	3-34
National Public Radio	H133G090139	Washington, DC	3-35
National Rehabilitation Hospital  MedStar Research Institutel	H133N060028	Washington, DC	2-50
National Rehabilitation Hospital MedStar Research Institutel	H133B031114	Washington, DC	2-5
New Jersey Institute of Technology	H133E050011	Newark, NJ	3-14
North Carolina State University	H133G070135	Raleigh, NC	3-47
Northeastern University	H133G070150	Boston, MA	6-10
Northwestern University	H133G070089	Chicago, IL	3-38
Northwestern University	H133P040007	Chicago, IL	8-23
Northwestern University	H133P030002	Chicago, IL	8-22
Northwestern University	H133E080009	Chicago, IL	3-12
Northwestern University	H133P080006	Chicago, IL	8-25
Obslap, Inc.	H133S070082	Eugene, OR	3-79
Ohio State University	H133A080023	Columbus, OH	2-35

Ohio Valley Center for Brain Injury Prevention and Rehabilitation ORC Macro	H133A070029 ED-04-CO- 0018/0007	Columbus, OH  Silver Spring, MD	2-34  6-12
Oregon Health and Science University	H133G080162	Portland, OR	3-52
Oregon Health and Science University	H133B040034	Portland, OR	2-10
Oregon Health and Science University	H133G070129	Portland, OR	3-51
Oregon Health and Science University	H133G070214	Portland, OR	2-83
Oregon Health and Science University	H133A031724	Portland, OR	4-19
Oregon Health and Science University	H133A080031	Portland, OR	2-36
Oregon State University	H133G090242	Corvallis, OR	3-49
OrthoCare Innovations, LLC	H133S090044	Oklahoma City, OK	3-70
Portland State University	H133G080132	Portland, OR	4-38
Portland State University	H133B040038	Portland, OR	4-10
Portland State University	H133B090019	Portland, OR	4-11
Portland State University	H133G070190	Portland, OR	4-37
Preethy Samuel, PhD	H133F080024	Detroit, MI	8-19
Public Health Institute	H133A060098	Oakland, CA	7-12
RAF Models & Displays	H133G060284	Winston-Salem, NC	3-48
Rehabilitation Ideas-Wheelchair Products and Accessories, Inc.	H133S090106	Tampa, FL	3-62
Rehabilitation Institute of Chicago	H133G090093	Chicago, IL	2-72
Rehabilitation Institute of Chicago	H133N060014	Chicago, IL	2-52
Rehabilitation Institute of Chicago	H133G060124	Chicago, IL	2-69
Rehabilitation Institute Research Corporation	H133G060055	Chicago, IL	3-37
Rehabilitation Institute Research Corporation	H133G070074	Chicago, IL	2-70
Rehabilitation Institute Research Corporation	H133E070013	Chicago, IL	3-11
Rehabilitation Institute Research Corporation	H133B080031	Chicago, IL	2-7
Rehabilitation Institute Research Corporation	H133A080045	Chicago, IL	2-22
RehabTek, LLC	H133S080076	Wilmette, IL	3-74
San Francisco State University	H133A090020	San Francisco, CA	3-27
Sang Wook Lee, PhD	H133F090018	Chicago, IL	8-17
Sangeetha Madhavan, PhD	H133F090009	Chicago, IL	8-16
Santa Clara Valley Medical Center (SCVMC)	H133G080165	San Jose, CA	2-63
Santa Clara Valley Medical Center (SCVMC)	H133G080168	San Jose, CA	2-62
Santa Clara Valley Medical Center (SCVMC)	H133A070038	San Jose, CA	2-16
Science, Math and Engineering, Inc. SEDL	H133S090064 H133A060028	Billerica, MA Austin, TX	3-65 6-7

SEDL	H133A080007	Austin, TX	1-19
Sendero Group, LLC	H133S090026	Davis, CA	3-58
Shepherd Center, Inc.	H133G080153	Atlanta, GA	4-20
Shepherd Center, Inc.	H133G080031	Atlanta, GA	2-68
Shepherd Center, Inc.	H133N060009	Atlanta, GA	2-51
Shepherd Center, Inc.	H133G070171	Atlanta, GA	2-67
Southern University A&M College	H133A031705	Baton Rouge, LA	8-7
Syracuse University	H133P070004	Syracuse, NY	8-36
Syracuse University	H133A060094	Atlanta, GA	7-6
Syracuse University	H133A060033	Syracuse, NY	1-17
Syracuse University	H133A090004	Syracuse, NY	1-18
Syracuse University	H133A080014	Syracuse, NY	4-17
Teaching Research Institute	H133G090227	Eugene, OR	3-50
Texas Southern University	H133A031704	Houston, TX	8-10
The Institute for Rehabilitation and Research (TIRR)	H133A060091	Houston, TX	7-9
The Institute for Rehabilitation and Research (TIRR)	H133A070043	Houston, TX	2-41
The Institute for Rehabilitation and Research (TIRR)	H133B090023	Houston, TX	4-13
The Institute for Rehabilitation and Research (TIRR)	H133N060003	Houston, TX	2-60
The Rehabilitation Institute Research Corporation	H133B090024	Chicago, IL	5-4
The Sandbox Learning Company	H133G080151	Cornelius, NC	4-33
The Smith-Kettlewell Eye Research Institute	H133E060001	San Francisco, CA	3-3
The Smith-Kettlewell Eye Research Institute	H133A060056	San Francisco, CA	3-26
The University of Kansas	H133B060018	Lawrence, KS	4-6
The University of Texas Southwestern Medical Center	H133A070027	Dallas, TX	2-39
The University of Texas Southwestern Medical Center	H133A070024	Dallas, TX	2-38
Thomas Jefferson University	H133N060011	Philadelphia, PA	2-58
Through the Looking Glass	H133A080034	Berkeley, CA	4-14
Touch Graphics, Inc.	H133S090137	New York, NY	3-78
TransCen, Inc.	H133A060085	Rockville, MD	7-5
UMBC	H133G050354	Baltimore, MD	3-41
University at Buffalo The State University of New York	H133A050008	Buffalo, NY	6-6
University at Buffalo The State University of New York	H133E050004	Buffalo, NY	3-15
University at Buffalo The State University of New York	H133A080050	Amherst, NY	6-5
University at Buffalo The State University of New York	H133G080043	Buffalo, NY	4-30

University of Alabama/Birmingham	H133A070039	Birmingham, AL	2-15
University of Alabama/Birmingham	H133A060039	Birmingham, AL	6-3
University of Alabama/Birmingham	H133N060021	Birmingham, AL	2-48
University of Arkansas	H133A060044	Little Rock, AR	1-14
University of Arkansas for Medical Sciences	H133G090170	Little Rock, AR	1-21
University of California	H133G090111	Irvine, CA	3-30
University of California, Davis	H133B090001	Davis, CA	2-4
University of California, Davis	H133B031118	Davis, CA	2-3
University of California, San Francisco	H133B080002	San Francisco, CA	4-3
University of Colorado	H133E090003	Denver, CO	3-5
University of Colorado	H133E040019	Denver, CO	3-4
University of Colorado Denver - Anschutz Medical Campus	H133A070006	Aurora, CO	2-17
University of Colorado Health Sciences Center	H133G070163	Boulder, CO	5-7
University of Delaware	H133G080047	Newark, DE	3-31
University of Illinois at Chicago	H133G070006	Chicago, IL	2-71
University of Illinois at Chicago	H133A040007	Chicago, IL	8-5
University of Illinois at Chicago	H133P060003	Chicago, IL	8-24
University of Illinois at Chicago	H133B050003	Chicago, IL	8-3
University of Illinois at Chicago	H133G080120	Chicago, IL	3-39
University of Illinois at Chicago	H133E070029	Chicago, IL	3-10
University of Illinois at Chicago	H133A060066	Chicago, IL	2-21
University of Illinois at Chicago	H133A060097	Chicago, IL	7-7
University of Illinois at Chicago	H133B080009	Chicago, IL	4-5
University of Kansas	H133G060238	Kansas City, KS	4-22
University of Kansas	H133G090222	Lawrence, KS	4-23
University of Kansas	H133G090230	Olathe, KS	2-73
University of Kansas	H133G090136	Kansas City, KS	3-34
University of Maryland/ Baltimore County	H133G090133	Baltimore, MD	5-8
University of Massachusetts Boston	H133A090002	Boston, MA	1-15
University of Massachusetts Boston	H133A080042	Boston, MA	4-16
University of Massachusetts Boston	H133B070001	Boston, MA	1-3
University of Massachusetts Medical School	H133B090018	Worcester, MA	1-6
University of Medicine and Dentistry of New Jersey	H133P050006	Scotch Plains, NJ	8-32
University of Medicine and Dentistry of New Jersey/New Jersey Medical School (UMDNJ/NJMS) and Kessler Medical Rehabilitation Research and Education Center (KMRREC)	H133P070007	West Orange, NJ	8-33
University of Medicine and Dentistry New Jersey Medical School	H133P090009	West Orange, NJ	8-34
University of Miami	H133G080150	Miami, FL	2-66

University of Miami	H133G070119	Miami, FL	2-65
University of Michigan	H133G050151	Ann Arbor, MI	2-74
University of Michigan	H133N060032	Ann Arbor, MI	2-54
University of Michigan	H133G090006	Ann Arbor, MI	4-27
University of Michigan	H133P090008	Ann Arbor, MI	8-29
University of Michigan	H133G090005	Ann Arbor, MI	3-45
University of Michigan	H133P030004	Ann Arbor, MI	8-28
University of Michigan	H133E060064	Ann Arbor, MI	3-13
University of Michigan	H133G070020	Ann Arbor, MI	2-76
University of Michigan	H133G070044	Ann Arbor, MI	2-75
University of Minnesota	H133A080049	Minneapolis, MN	2-25
University of Minnesota	H133G080029	Minneapolis, MN	5-9
University of Minnesota	H133B080005	Minneapolis, MN	4-9
University of Missouri/Columbia	H133A060089	Columbia, MO	7-10
University of Missouri/Columbia	H133P050005	Columbia, MO	8-31
University of Montana	H133B030501	Missoula, MT	1-7
University of Montana	H133G070196	Missoula, MT	4-29
University of Montana	H133B080023	Missoula, MT	1-8
University of Nebraska at Omaha	H133G080023	Omaha, NE	2-79
University of North Carolina	H133G090124	Chapel Hill, NC	2-82
University of North Carolina at Chapel Hill	H133G070072	Chapel Hill, NC	4-32
University of Pennsylvania	H133B080029	Philadelphia, PA	4-12
University of Pittsburgh	H133P090010	Pittsburgh, PA	8-37
University of Pittsburgh	H133E040012	Pittsburgh, PA	3-18
University of Pittsburgh	H133N060019	Pittsburgh, PA	2-59
University of Pittsburgh	H133E070024	Pittsburgh, PA	3-19
University of Pittsburgh	H133A021916	Pittsburgh, PA	3-29
University of Pittsburgh	H133E090002	Pittsburgh, PA	3-21
University of Rochester			
School of Medicine	H133G090189	Rochester, NY	4-31
University of South Carolina	H133G090036	Columbia, SC	4-39
University of South Florida	H133B040024	Tampa, FL	4-4
University of Southern California	H133E080024	Los Angeles, CA	2-14
University of Texas Medical Branch	H133G080163	Galveston, TX	5-10
University of Texas Medical Branch	H133G050079	Galveston, TX	4-40
University of Texas Medical Branch	H133P040003	Galveston, TX	8-38
University of Texas Medical Branch	H133A070026	Galveston, TX	2-40
University of Washington	H133A070047	Seattle, WA	2-46
University of Washington	H133P080008	Seattle, WA	8-42
University of Washington	H133A070032	Seattle, WA	2-47
University of Washington	H133A060107	Seattle, WA	2-45
University of Washington	H133A020103	Seattle, WA	2-43
University of Washington	H133A040004	Seattle, WA	2-44
University of Washington	H133A060070	Seattle, WA	6-9
University of Washington	H133N060033	Seattle, WA	2-61
University of Washington	H133G070016	Seattle, WA	2-93

University of Washington	H133B080024	Seattle, WA	2-13
University of Washington	H133B080025	Seattle, WA	2-12
University of Washington	H133A070048	Mountlake Terrace, WA	7-13
University of Washington	H133G090022	Seattle, WA	2-94
University of Wisconsin/Madison	H133E080022	Madison, WI	3-24
University of Wisconsin/Madison	H133E040013	Madison, WI	3-22
University of Wisconsin/Madison	H133E090001	Madison, WI	3-25
University of Wisconsin/Milwaukee	H133G060218	Milwaukee, WI	2-95
Vanderbilt University School of Medicine	H133G060012	Nashville, TN	3-53
VCom3D, Inc.	H133S090134	Orlando, FL	3-73
VCom3D, Inc.	H133S090074	Orlando, FL	3-61
Virginia Commonwealth University	H133P090013	Richmond, VA	8-41
Virginia Commonwealth University	H133A080060	Richmond, VA	8-11
Virginia Commonwealth University	H133G080123	Richmond, VA	5-11
Virginia Commonwealth University	H133B040011	Richmond, VA	1-13
Virginia Commonwealth University	H133A060087	Richmond, VA	6-8
Virginia Commonwealth University	H133P040006	Richmond, VA	8-40
Virginia Commonwealth University	H133A070036	Richmond, VA	2-42
Virginia Commonwealth University	H133A080027	Richmond, VA	1-20
Washington State University	H133G070055	Spokane, WA	5-12
Wayne State University	H133G060267	Detroit, MI	4-28
Wayne State University	H133G080064	Detroit, MI	2-77
Wayne State University	H133A080044	Detroit, MI	2-24
Western Oregon University	H133A060075	Eugene, OR	4-18
WGBH Educational Foundation	H133G070122	Boston, MA	3-42
WGBH Educational Foundation	H133G080093	Boston, MA	3-43
Wright State University	H133B040012	Kettering, OH	1-12
Yin Ling Irene Wong, PhD	H133F090035	Philadelphia, PA	8-13
Yi-Ning Wu, PhD	H133F090042	Chicago, IL	8-15

## Projects by State

---



## Alabama

National Spinal Cord Injury Statistical Center (NSCISC) .....	6-3
UAB Model Spinal Cord Injury Care System .....	2-48
University of Alabama at Birmingham (UAB) Traumatic Brain Injury Model System (UAB TBIMS) .....	2-15

## Arkansas

Beyond Hearing Aids: Training Resources to Improve the Capacity of VR Professionals Serving Consumers who are Hard of Hearing and Late Deafened .....	1-21
Improve the Employment Outcomes for the Low Functioning Deaf (LFD) Population ...	1-14

## California

A New Measure of Subjective Fatigue in Persons with Traumatic Brain Injury .....	2-62
A Robotic Powered Wheelchair Trainer with Haptic Guidance as Needed .....	3-30
Development of a Global Access Information Navigation (GAIN) for Persons Who Are Blind or Have Low Vision .....	3-58
Disability and Business Technical Assistance Center (DBTAC) — Pacific ADA Center .....	7-12
Evaluating Dysphagia in Individuals with Spinal Cord Injury: Assessing Incidence, Associated Factors, and Preventable Complications .....	2-63
Fundamental Issues in Wayfinding Technologies .....	3-26
Hearsay: A Context-Driven Assistant Browser for Non-Visual Web Access .....	3-57
National Center for Parents with Disabilities and Their Families .....	4-14
Northern California Traumatic Brain Injury Model System of Care .....	2-16
Personal Assistance Services (PAS) in the 21st Century .....	4-3
Rehabilitation Engineering Research Center for Successful Aging with Disability: Optimizing Participation Through Technology (OPTT-RERC) .....	2-14

Rehabilitation Engineering Research Center: Develop and Evaluate Technology for Low Vision, Blindness, and Multi-Sensory Loss ...	3-3
Rehabilitation Research and Training Center in Neuromuscular Diseases (RRTC/NMD) ...	2-3
Rehabilitation Research and Training Center in Neuromuscular Diseases (RRTC-NMD) ..	2-4
Technology Access in Resource-Limited Environments .....	3-27

## Colorado

ATLAS: An Accessible Testing, Learning, and Assessment System for Individuals with Intellectual Disabilities to Facilitate Inclusion and Access to the General Curriculum .....	3-72
Collaborative Spinal Cord Injury Model Systems Centers Program: Improving Spinal Cord Injury Rehabilitation Outcomes .....	2-18
CTAS: A Self-Directed Computer Technology Assessment System for Students and Adults with Intellectual Disabilities .....	3-59
DBTAC Rocky Mountain ADA Center - Region VIII .....	7-11
Developing a Relevant Instrument to Assess Caregiver Distress and Benefit in Spinal Cord Injury .....	2-64
LiveWire: A Context-Aware, Location-Based Wireless Activity Support System to Facilitate Independence for Individuals with Intellectual Disabilities .....	3-60
Public Spending for Disability in the United States: A Comparative, Longitudinal Study .	5-7
Rehabilitation Engineering Research Center for Cognitive Rehabilitation .....	3-5
Rehabilitation Engineering Research Center for the Advancement of Cognitive Technologies (RERC-ACT) .....	3-4
The National Data and Statistical Center for the Traumatic Brain Injury Model Systems .	2-19
The Rocky Mountain Regional Brain Injury System (RMRBIS) .....	2-20
The Rocky Mountain Regional Spinal Injury System .....	2-49
UCHSC Burn Model System Data Coordination Center (BMS/DCC) .....	2-17

## Delaware

Multimodal Access to Information Graphics .....	3-31
---	------

## District of Columbia

Accessible Digital Radio Broadcast Services .....	3-32
An Automatic Fitting Algorithm for Cochlear Implant .....	3-33
National Capital Spinal Cord Injury Model System .....	2-50
Personal Audio Information Service .....	3-34
Rehabilitation Engineering Research Center on Hearing Enhancement .....	3-6
Rehabilitation Research and Training Center on Secondary Conditions in Spinal Cord Injury .....	2-6
Rehabilitation Research and Training Center on Spinal Cord Injury: Promoting Health and Preventing Complications through Exercise .....	2-5
The Captioned Braille Radio Initiative: Providing Emergency Information for Individuals who are Deaf-Blind .....	3-35

## Florida

Exercise Treatment of Obesity-Related Secondary Conditions in Adults with Paraplegia .....	2-66
Increasing Mobility and Maneuverability of Wheelchairs for Indoor, Transportation, and Recreational Activities .....	3-62
Investigating the Effects of Snoezelen in Children Recovering from Severe Brain Injury .....	2-65
Mobile Math Signing Dictionary for iPod Touch .....	3-61
Rehabilitation Research and Training Center for Children's Mental Health .....	4-4
Signing Science Pictionary for Young Learners Who are Deaf or Hard of Hearing .....	3-73

## Georgia

Assessing Safety Risk after Traumatic Brain Injury .....	4-20
--	------

Biopsychosocial Factors that Predict TBI Post-Acute Rehabilitation Outcomes .....	2-67
DBTAC: Southeast ADA Center - Region IV .....	7-6
Evaluating the Effects of Activity-Based Therapy for Individuals with Chronic Spinal Cord Injury .....	2-68
Georgia Regional Spinal Cord Injury Care System .....	2-51
Rehabilitation Engineering Research Center for Wheeled Mobility in Everyday Life .....	3-9
Rehabilitation Engineering Research Center for Wireless Technologies .....	3-7
Rehabilitation Engineering Research Center on Workplace Accommodations .....	3-8
Workplace Accommodation Wizard: An Assessment and Accommodation Tool for Employers .....	3-36

## Illinois

A Low-Cost Portable/Wearable Device for Intelligent Stretching and Movement Training of Hypertonic Forearm in Stroke with Outcome Evaluation .....	3-74
Advanced Rehabilitation Research Training Project in Rehabilitation Services Research .....	8-22
Advanced Rehabilitation Research Training Project in Rehabilitation Services Research .....	8-25
Advanced Training in Translational and Transformational Research to Improve Vocational Outcomes for Persons with Disabilities .....	8-24
Augmenting Language Therapy for Aphasia: A Randomized Double-Blind Placebo-Controlled Trial of Levodopa in Combination with Speech-Language Therapy .....	2-70
Center for Strategic Capacity Building on Minorities with Disabilities Research .....	8-5
Client-Centered Practices in Spinal Cord Injury (SCI) Rehabilitation .....	8-18
DBTAC: Great Lakes ADA Center .....	7-7
Does the Non-Lesioned Hemisphere Influence Paretic Lower Limb Motor Function Following Stroke? .....	8-16

Effectiveness of a Teleconference Fatigue Management Program for People with Multiple Sclerosis .....	2-71	Rehabilitation Science for Basic Scientists and Engineers: An Advanced Training Program .....	8-23
Enhanced Motor Recovery Using Serotonergic Agents .....	2-69	Subject-Specific EMG Pattern Classification to Promote Hand Rehabilitation in Stroke Survivors .....	8-17
Homeless Mentally Ill: Strategies for Maintaining Residential Stability .....	4-21	The Effectiveness of Intelligent-Stretching Followed by Active Movement in Children with Cerebral Palsy .....	8-15
Midwest Regional Spinal Cord Injury Care System (MRSCIS) .....	2-52	University of Illinois at Chicago National Research and Training Center on Psychiatric Disability .....	8-3
Midwest Regional Traumatic Brain Injury Model System: Innovative Approaches to Improve Cognition, Function, and Community Living .....	2-22	Video Gaming Technology to Promote Health and Fitness Among Adolescents with Disabilities .....	3-39
Noninvasive Examination of ALS Using Surface EMG .....	2-72	Virtual Reality-Based Assessment Tool for Spatial Neglect Following Stroke .....	8-14
Overcoming Gravity Induced Arm and Hand Dysfunction to Restore Functional Reaching Following Stroke .....	3-38	Web-Based Treatment for Aphasia .....	3-37
Reducing Obesity and Obesity-Related Secondary Conditions in Adolescents with Disabilities .....	2-21		
Rehabilitation Engineering Research Center for Prosthetics and Orthotics .....	3-12	<b>Indiana</b>	
Rehabilitation Engineering Research Center on Recreational Technologies and Exercise Physiology Benefiting Persons with Disabilities (RERC RecTech) .....	3-10	A Navigation and Object-Location System to Assist Blind and Low-Vision Individuals in Indoor Environments .....	3-63
Rehabilitation Research and Training Center for Health and Function Across the Lifespan of Individuals with Intellectual and Developmental Disabilities .....	4-5	Hearing Companion: Handheld Portable Sound Identification and Critical Alerting Functionality for People Who Are Deaf or Have Hearing Loss .....	3-75
Rehabilitation Research and Training Center on Enhancing the Functional and Employment Outcomes of Individuals Who Experience a Stroke .....	2-7	Variable Position Mid-Wheel Drive System for Power Wheelchairs .....	3-64
Rehabilitation Research and Training Center on Improving Measurement of Medical Rehabilitation Outcomes .....	5-4		
Rehabilitation Research and Training Center on Measuring Rehabilitation Outcomes and Effectiveness .....	5-3	<b>Kansas</b>	
Rehabilitation Robotics and Telemanipulation Machines Assisting Recovery from Stroke Rehabilitation Engineering Research Center (MARS-RERC) .....	3-11	Accommodations and ADA for Post-Secondary Students with Disabilities .....	4-23
		Combining Technologies to Maximize Outcomes: Telemedicine and Online Training Program for Parents of Children with Autism .....	4-22
		Experimental Evaluation of the Online and Applied System for Intervention Skills (OASIS) Training Program Using Video-Conferencing for Parents of Children with an Autism Spectrum Disorder .....	3-34
		Rehabilitation Research and Training Center on Measurement and Interdependence in Community Living (RRTC/MICL) .....	4-6
		Weight Loss by Individuals with Physical Disabilities .....	2-73

## Louisiana

Evacuation Methodology and Understanding Behavior of Persons with Disabilities in Disasters: A Blueprint for Emergency Planning Solutions .....	4-15
Rehabilitation Research Institute for Underrepresented Populations (RRIUP) .....	8-7

## Maryland

ABLEDATA .....	6-12
DBTAC: Mid-Atlantic ADA Center .....	7-5
Demographic Soup: Disentangling the Conceptual, Political, and Methodological Dimensions of Disability Statistics .....	8-12
Health Care Disparities in Access and Utilization among Individuals with Disabilities .....	5-8
Johns Hopkins University Burn Injury Rehabilitation Model System (JHU-BIRMS) .....	2-23
National Rehabilitation Information Center (NARIC) .....	6-11
Optimized Hands-Free Speech Recognition .....	3-41

## Massachusetts

A Center on Postsecondary Education for Students with Intellectual Disabilities .....	4-16
Advanced Research Training Program in Psychiatric Rehabilitation .....	8-27
Caption Accuracy Metrics Development Project .....	3-43
Captioning Solutions for Handheld Media and Mobile Devices Development .....	3-42
Clothing Worn by Individuals with Visual Impairments as a Hands-Free Common Platform for GPS WayFinding Systems and Obstacle Avoidance Systems .....	3-65
Cooling System for Multiple Sclerosis Patients .....	3-66
Development of Measures of Participation and Environment for Children with Disabilities .....	4-25
EVIDAAC: A Database of Appraised Evidence in Augmentative and Alternative Communication .....	6-10

Improved Employment Outcomes for Individuals with Psychiatric Disabilities .....	1-5
Innovative Knowledge Dissemination and Utilization for Disability and Professional Organizations and Stakeholders .....	6-4
Instrument to Measure Recovery-Promoting Competence Among Providers Serving Spanish Speaking Mental Health Consumers .....	4-24
Learning and Working During the Transition to Adulthood .....	1-6
Life Skills: Transitioning from Homelessness and Isolation to Housing Stability and Community Integration .....	4-26
Minimal Classroom Requirements for Optimal Acoustic Access to Speech by Children with and Without Hearing Loss ....	3-44
Opening Doors for Children with Disabilities and Special Health Care Needs ..	4-8
Post-Doctoral Fellowship in Rehabilitation Outcomes and Effective Research .....	8-26
DBTAC-New England ADA Center - Region I .....	7-3
Rehabilitation Research and Training Center for Recovery and Recovery Oriented Psychiatric Rehabilitation for Persons with Long-Term Mental Illness .....	4-7
Rehabilitation Research and Training Center for Vocational Rehabilitation Research .....	1-3
Research and Technical Assistance Center on Vocational Rehabilitation Program Management .....	1-15
The New England Regional Spinal Cord Injury Center .....	2-53

## Michigan

Adapted Assessment of Speed of Information Processing in Children with Cerebral Palsy .....	2-75
Michigan Traumatic Brain Injury Model System (SEMTBIS) .....	2-24
Neuroanatomical Correlates of Positive Psychology Among People with Traumatic Brain Injury: A Biopsychosocial Model .....	2-77
Pathways to Depression: An Examination of Vulnerability and Stress in Adults with Spinal Cord Injury .....	2-76

Preparations for In-home Testing of Brain-Computer Interfaces Operating Assistive Technology .....	3-45	Wireless Wrist Device to Alert the Deaf of Sounds and Events in Their Environment ...	3-76
Psychometric Evaluation of the Family Quality of Life Survey for Minority Families .....	8-19	<b>Mississippi</b>	
Rehabilitation Engineering Research Center on Wheelchair Transportation Safety .....	3-13	Vocational Rehabilitation: Transition Services that Lead to Competitive Employment Outcomes for Transition-Age Individuals with Blindness or Other Visual Impairments .....	1-16
Sensorimotor Training and Assessment in Adults with Hemiplegic Cerebral Palsy: The ULTrA Program .....	2-74	<b>Missouri</b>	
The Effects of a Bicycle Training Intervention on Health, Physical Activity, Sleep, and Community Participation in Youth with Down Syndrome and Autism Spectrum Disorders .....	4-27	DBTAC - Great Plains ADA Center - Region VII .....	7-10
The UMHS/AACIL Rehabilitation Research Training Program .....	8-28	Health Activity Rehabilitation Research Training Center (HARRTC) .....	8-31
The UMHS/AACIL Rehabilitation Research Training Program .....	8-29	<b>Montana</b>	
University of Michigan Model Spinal Cord Injury Care System .....	2-54	CIL-Based Abuse Education and Safety Planning Program for Women with Disabilities .....	4-29
Work Environment and Quality of Life Outcomes: A Comparison of the Experiences of Formal and Informal Caregivers of Persons with Spinal Cord Injuries .....	4-28	Rehabilitation Research and Training Center on Disability in Rural Communities .....	1-7
<b>Minnesota</b>		Rehabilitation Research and Training Center on Disability in Rural Communities .....	1-8
A Display Reader for the Vision Impaired ..	3-67	<b>Nebraska</b>	
Connectivity to Modern Electronics for the Hearing Disabled .....	3-77	Development of an Intelligently Controlled Assistive Rehabilitation Elliptical (ICARE) Training System to Promote Walking and Fitness in Persons with Physical Limitations .....	2-78
Development and Use of a Multi-State Database on Individual Outcomes and their Predictors for Persons with Intellectual and Developmental Disabilities in the US .....	5-9	Investigation of Interventions for Sitting Postural Control in Young Children with Moderate to Severe Cerebral Palsy .....	2-79
Health Care Coordination for Individuals with Physical Disabilities: Critical Elements and Consumer Outcomes .....	2-25	<b>New Hampshire</b>	
Mayo Clinic Traumatic Brain Injury Model System .....	2-26	Building Knowledge and Capacity in the Rehabilitation and Recovery of African-Americans Suffering from Severe Mental Illness: The Dartmouth-Howard Collaboration .....	8-8
Rehabilitation Research and Training Center for Community Living and Employment for Individuals with Intellectual and Developmental Disabilities .....	4-9	Cognitive Remediation, Illness Self-Management, and Supported Employment in Severe Mental Illness .....	1-23
Transportation Assistant for the Cognitively Impaired .....	3-68	Cognitive Training and Supported Employment in Severe Mental Illness .....	1-22

## **New Jersey**

A Multicenter Prospective Randomized Controlled Trial of the Effectiveness of Amantadine Hydrochloride in Promoting Recovery of Function Following Severe Traumatic Brain Injury .....	2-27
Advanced Psychiatric Rehabilitation Research on Employment and Community Integration .....	8-32
Advanced Rehabilitation Research Training Center on Neurocognitive Rehabilitation ....	8-34
Advanced Rehabilitation Research Training Center on Neuro-musculoskeletal Rehabilitation .....	8-33
Improved Weight Bearing Evaluation of Knee Osteoarthritis .....	3-46
Improving New Learning and Memory in TBI: Applying fMRI to Measure Outcome .....	2-81
JFK-Johnson Rehabilitation Institute TBI Model System .....	2-28
Northern New Jersey Spinal Cord Injury System .....	2-55
Northern New Jersey Traumatic Brain Injury System (NNJTBIS) .....	2-29
Quality of Life in Traumatic Brain Injury Research and Practice: Development of the TBI-QOL .....	2-80
Rehabilitation Engineering Research Center on Children with Orthopedic Disabilities ....	3-14

## **New York**

Advanced Rehabilitation Research and Disability Policy Training Center .....	8-36
Advanced Rehabilitation Research Training Program .....	8-35
Asset Accumulation and Economic Self-Sufficiency (AAESS) .....	4-17
Audio-Tactile Interactive Computing with the Livescribe Pulse Pen .....	3-78
Center for International Rehabilitation Research Information and Exchange (CIRRIE-2) .....	6-6
Center on Effective Delivery of Rehabilitation Technology by Vocational Rehabilitation Agencies .....	1-18

Center on Knowledge Translation for Technology Transfer .....	6-5
Classification and Measurement of Medical Rehabilitation Interventions .....	2-31
Controlled Study of Affect Recognition Training for Individuals with Traumatic Brain Injury .....	4-30
Demand-Side Employment Placement Models .....	1-17
Direct vs. Interpreted Administration of the SPAT .....	4-31
Disability and Business Technical Assistance Center - Northeast .....	7-4
Early Math Intervention Program for Improved Comprehension and Communication in Problem Solving for Students with Learning Disabilities .....	3-69
Mount Sinai Spinal Cord Injury Model System .....	2-56
New York Traumatic Brain Injury Model System (NYTBIMS) .....	2-30
Rehabilitation Engineering and Research Center (RERC) on Universal Design and the Built Environment at Buffalo .....	3-15
Rehabilitation Research and Training Center on Demographics and Statistics .....	5-5
Rehabilitation Research and Training Center on Disability Statistics and Demographics ....	5-6
Rehabilitation Research and Training Center on Employment Policy and Individuals with Disabilities .....	1-9
Rehabilitation Research and Training Center on Employment Service Systems .....	1-11
Rehabilitation Research and Training Center on Traumatic Brain Injury Interventions .....	2-8

## **North Carolina**

Carolinas Traumatic Brain Injury Rehabilitation and Research System (CTBIRRS) .....	2-32
Consortium for Assistive Technology Outcomes Research (CATOR) II .....	3-28
Daily Living and Community Skills Video Game for Children with Developmental Disabilities .....	4-33
Improving Cervical and Breast Cancer Screening for Women with Intellectual Disabilities .....	2-82

Improving Representative Payeeship for People with Psychiatric Disabilities and their Families .....	4-32	Development of a Safety-Planning Tool for Men with Disabilities .....	4-37
Micromachined Braille Reader .....	3-47	Health and Health Care Disparities Among Individuals with Disabilities .....	2-36
Rehabilitation Engineering Research Center for Communication Enhancement (AAC-RERC) .....	3-17	Identification and Reporting of Violence by People with Disabilities .....	4-19
Rehabilitation Engineering Research Center on Communication Enhancement .....	3-16	My Scrivener™ Innovative Technology to Enhance Fine Motor Function .....	3-79
TBI Model System Collaborative Study of Amantadine for Post TBI Irritability and Aggression .....	2-33	Parent-Infant Interaction Project (PIIP) .....	4-38
Universal Design of Tactile Exhibits with Touch Activated Descriptive Audio for Aquariums .....	3-48	Rehabilitation Research and Training Center for Community Integration for Individuals with Disabilities, Strengthening Family and Youth Participation in Child and Adolescent Mental Health Services .....	4-10
<b>Ohio</b>		Rehabilitation Research and Training Center for Pathways to Positive Futures: Supporting Successful Transition for Youth and Young Adults with Serious Mental Health Conditions .....	4-11
Developing College Campuses as Transition Settings for Students with Severe and Multiple Disabilities Aged 18-21 .....	4-36	Rehabilitation Research and Training Center on Health and Wellness in Long Term Disability .....	2-10
Individualized Planning for the First Year Following Acute Rehabilitation Project .....	2-35	Researching Accessibility Gaps in Transit Hub Communication Systems and Standards .....	3-49
Northeast Ohio Regional Spinal Cord Injury System .....	2-57	RISE - Reflection, Insight, and Self-Empowerment: Development of a Cognitive Behavioral Group Therapy Intervention for Women with Physical Activity Disabilities who Experience Depression .....	2-83
Ohio Regional TBI Model System .....	2-34	School Transition & re-Entry Program (STEP): Systematic Hospital-to-School Transition for Students with Traumatic Brain Injury .....	4-18
Rehabilitation Research and Training Center on Interventions for Children and Youth with TBI .....	2-9	Systematic Study of the Effectiveness of AAC Intervention to Improve Conversation in Individuals with Degenerative Language Disorders .....	3-52
Rehabilitation Research and Training Center on Substance Abuse, Disability, and Employment .....	1-12	Television Assisted Promotion (TAP): Enhancing Rehabilitation Outcomes with Familiar Technology .....	3-81
Teen Online Problem Solving for Pediatric Brain Injury .....	4-34	The TATE Project: Training Assistive Technology in the Environment .....	3-50
Web Therapy to Improve Outcomes After Traumatic Brain Injury in Young Children ..	4-35	Why Go It Alone? The Use of Public Resources to Enhance Computer Accessibility for Individuals with Intellectual Disabilities .....	3-80
<b>Oklahoma</b>			
Haptic Feedback Improvements for Prostheses .....	3-70		
A Means of Expression: Online Communication Assessment to Improve Outcomes for Individuals with Severe Disabilities .....	3-51		
ADL Access: A Cognitively Accessible Software Application for Augmented Self-Management of Activities of Daily Living ..	4-42		

## **Pennsylvania**

Career Advancement for Engineers in the Science of Rehabilitation (CAESOR) .....	8-37
Cross-Disability Study of CRS .....	8-13
Information Technology for Independence: Community-Based Research .....	3-29
Low Vision Lime: Solution for Low Vision Musicians to Read, Perform, Write, and Print Music Notation .....	3-82
Regional Spinal Cord Injury Center of the Delaware Valley .....	2-58
Rehabilitation Engineering Research Center on Accessible Public Transportation .....	3-20
Rehabilitation Engineering Research Center on Spinal Cord Injury .....	3-19
Rehabilitation Engineering Research Center on Telerehabilitation .....	3-18
Rehabilitation Engineering Research Center on Telerehabilitation .....	3-21
Rehabilitation Research and Training Center on Participation and Community Living of Individuals with Psychiatric Disabilities .....	4-12
The Moss Traumatic Brain Injury Model System .....	2-37
Treatment Components and Active Ingredients in a Scheduled Telephone Intervention for Traumatic Brain Injury .....	2-84
Understanding the Determinants of Motor Ability, Self-Care, and Play of Young Children with Cerebral Palsy .....	2-86
University of Pittsburgh Model Center on Spinal Cord Injury .....	2-59
Virtual Reality Assessment and Treatment of Hemispatial Neglect .....	2-87
Zolpidem and Restoration of Consciousness: An Exploration of the Mechanism of Action .....	2-85

## **South Carolina**

A Longitudinal Study of Risk for Hospitalization, Pressure Ulcers, and Subsequent Injuries After Spinal Cord Injury .....	2-88
Ambulation and Secondary Complications: Participants with Chronic Spinal Cord Injury .....	2-91

Center on Health Outcomes Research and Capacity Building for Underserved Populations with SCI and TBI .....	8-9
Investigating Environmental Factors Affecting Community Integration .....	4-39
Participation, Subjective Well-Being, Health, and Spinal Cord Injury: A 35-Year Longitudinal Study .....	2-89
Rehabilitation Research and Training Center on Secondary Conditions in Individuals with SCI .....	2-11

## **Tennessee**

Appropriate Directional Hearing Aid Switching in School Age Children .....	3-53
--	------

## **Texas**

Advanced Rehabilitation Research Training .....	8-39
Developing Strategies to Foster Community Integration and Participation (CIP) for Individuals with Traumatic Brain Injury .....	4-13
Development of an Internet-Based Self-Esteem Intervention for Women with Disabilities .....	4-41
Effectiveness of a Group Cognitive-Behavioral Intervention for Depression after TBI and Factors that Affect Response to Treatment .....	2-92
Impact of Prospective Payment and Rehabilitation Outcomes .....	5-10
Inpatient Rehabilitation Volume-Outcomes Relationship .....	8-20
Interdisciplinary Rehabilitation Research Training Program .....	8-38
Minority Scholar/Champion Research Training Project .....	8-10
National Center for the Dissemination of Disability Research (NCDDR) .....	6-7
North Texas Burn Rehabilitation Model System (NTBRMS) .....	2-38
North Texas Traumatic Brain Injury Model System (NT-TBIMS) .....	2-39
Outpatient Social Skills Training for Distressed Adolescent Burn Survivors .....	4-40
Pediatric Burn Injury Rehabilitation Model System .....	2-40

SEDL’s Vocational Rehabilitation Service Models for Individuals with Autism Spectrum Disorders .....	1-19	Model Systems Knowledge Translation Center (MSKTC) .....	6-9
Southwest Disability and Business Technical Assistance Center (Southwest DBTAC-Region VI) .....	7-9	Multiple Sclerosis Rehabilitation Research and Training Center .....	2-12
Texas Model Spinal Cord Injury System .....	2-60	Natural History of Headache Following Mild Traumatic Brain Injury .....	2-94
The Texas Traumatic Brain Injury Model System of TIRR .....	2-41	Northwest Regional Spinal Cord Injury System .....	2-61
<b>Utah</b>		Rehabilitation Research and Training Center on Aging with a Physical Disability: Reducing Secondary Conditions and Enhancing Health and Participation, Including Employment .....	2-13
New Electro-Hydraulic Foot Prosthesis .....	3-71	Telephone and In-Person Cognitive Behavioral Therapy for Depression After Traumatic Brain Injury .....	2-93
Utility Arm – An Upper Limb Prosthesis ....	2-97	The Effect of Scheduled Telephone Intervention on Outcomes After Traumatic Brain Injury (TBI) .....	2-44
Wireless EMG Preamp and Improved Mounting System .....	3-83	Turning the Corner for Amputee Rehabilitation: Identifying the Appropriate Torsional Stiffness to Maximize Biomechanical Performance .....	8-21
<b>Virginia</b>		University of Washington Advanced Rehabilitation Research Training .....	8-42
A National Assessment of the Rates and Correlates of Alcohol and Other Drug Use by College Students with Disabilities .....	5-11	University of Washington Burn Model System .....	2-43
Advanced Research Training Program .....	8-40	University of Washington Burn Model System .....	2-46
Advanced Research Training Program in Neurobehavioral Recovery and Intervention .....	8-41	University of Washington Traumatic Brain Injury Model System .....	2-47
Disability and Business Technical Assistance Centers: Coordination, Outreach, and Research Center .....	6-8	<b>West Virginia</b>	
Empowerment: Building Research Infrastructure Capacity .....	8-11	Making Small Visual Displays Accessible to People with Vision Loss .....	3-54
Rehabilitation Research and Training Center on Workplace Supports and Job Retention .....	1-13	<b>Wisconsin</b>	
Virginia Commonwealth Traumatic Brain Injury Model System .....	2-42	Advanced Rehabilitation Research Training in Pediatric Mobility .....	8-44
Vocational Rehabilitation Service Models for Individuals with Autism Spectrum Disorders (VCU ASC Career Links) .....	1-20	Adverse Outcomes Following Inpatient Rehabilitation: Trends and Reasons .....	2-95
<b>Washington</b>		Clinical Reliability and Validity of a Foot Model: Assessing Efficacy and Functional Outcome with Orthotic Intervention in Children with Cerebral Palsy .....	3-56
Assessing the Impact of Medicare-D on SSDI Beneficiaries .....	5-12		
Controlled Trial of Venlafaxine XR for Depression After SCI: A Multisite Study ...	2-45		
Disability and Business Technical Assistance Center (DBTAC) — Northwest .....	7-13		

Clinician Researchers and Engineers:  
 Advanced Rehabilitation Research  
 Training ..... 8-43  
 Conservative and Surgical Clubfoot  
 Treatment: Multi-Center Study ..... 2-96  
 Development of Dynamic Pedorthosis for  
 Improving Clubfoot Correction ..... 3-55  
 Rehabilitation Engineering Research Center  
 for Universal Interface and Information  
 Technology Access ..... 3-24  
 Rehabilitation Engineering Research Center  
 on Telecommunication Access ..... 3-22  
 Rehabilitation Engineering Research Center  
 on Telecommunications Access ..... 3-25

## Principal Investigators

---



<b>Abery, Brian, PhD</b> University of Minnesota 612/625-5592 .....	2-25	<b>Bell, Kathleen R., MD</b> University of Washington 206/685-0935 .....	2-44, 2-47, 2-94
<b>Allen, David, PhD</b> Portland State University 503/725-4687 .....	4-38	<b>Bellini, James L., PhD</b> Syracuse University 315/443-9655 .....	8-36
<b>Altman, Barbara</b> 301/460-5963 .....	8-12	<b>Bertocci, Gina, PhD</b> University of Michigan 734/936-1103 .....	3-13
<b>Apple, David F., Jr., MD</b> Shepherd Center, Inc. 404/350-7353 .....	2-51	<b>Beukelman, David, PhD</b> Duke University 919/684-6271 .....	3-17
<b>Arango-Lasprilla, Juan Carlos, PhD</b> Virginia Commonwealth University 804/827-0914 .....	8-11	<b>Bjelland, Melissa, PhD</b> Cornell University 607/255-9536 .....	5-5
<b>Ashman, Theresa, PhD</b> Mount Sinai School of Medicine 212/241-2549 .....	8-35	<b>Blanck, Peter D., PhD, JD</b> Syracuse University 315/443-9703 .....	1-17, 1-18, 7-6
<b>Bakke, Matthew H., PhD</b> Gallaudet University 202/651-5335 (V/TTY) .....	3-6, 3-33	<b>Bodine, Cathy PhD</b> University of Colorado 303/315-1281 .....	3-5
<b>Balcazar, Fabricio E., PhD</b> University of Illinois at Chicago 312/413-1646 .....	8-5	<b>Bodine, Cathy, PhD</b> University of Colorado 303/315-1281 .....	3-4
<b>Barner, Kenneth, PhD</b> University of Delaware 302/831-6937 .....	3-31	<b>Bogner, Jennifer, PhD</b> Ohio Valley Center for Brain Injury Prevention and Rehabilitation 614/293-3830 .....	2-34
<b>Barrance, Peter, PhD</b> University of Medicine and Dentistry of New Jersey/New Jersey Medical School (UMDNJ/NJMS) and Kessler Medical Rehabilitation Research and Education Center (KMRREC) 973/324-3550 .....	3-46, 8-33	<b>Bombardier, Charles H., PhD</b> University of Washington 206/731-3665 206/685-3999 .....	2-45, 2-61
<b>Belknap, Katherine</b> ORC Macro 301/608-8998, ext. 105 .....	6-12	<b>Boninger, Michael L., MD</b> University of Pittsburgh 412/365-4861 .....	2-59

<b>Boone, Steven E., PhD</b> University of Arkansas for Medical Sciences 501/686-7348 .....	1-21	<b>Cardoso, Elizabeth, PhD</b> CUNY Research Foundation 212/772-4736 .....	5-6
<b>Brabyn, John A., PhD</b> The Smith-Kettlewell Eye Research Institute 415/345-2110 .....	3-3, 3-26	<b>Casey, Steve</b> Aspen Systems, Inc. 508/281-5322 .....	3-66
<b>Braddock, David L., PhD</b> University of Colorado Health Sciences Center 303/492-0639 .....	5-7	<b>Cavanaugh, Brenda</b> Mississippi State University 662/325-3728 .....	1-16, 2-49, 2-64
<b>Brienza, David M., PhD</b> University of Pittsburgh 412/586-6907 .....	3-18, 3-19, 3-21	<b>Chaubey, Pravin</b> OrthoCare Innovations, LLC 405/271-2466 .....	3-70
<b>Brooks, Marcia</b> WGBH Educational Foundation 617/300-3431 .....	3-43	<b>Chawla, Sunil</b> Charmtech 408/368-4833 .....	3-57
<b>Brown, Allen W., MD</b> Mayo Clinic 507/255-3116 .....	2-26	<b>Chen, David, MD</b> Rehabilitation Institute of Chicago 312/238-0764 .....	2-52
<b>Brown, Susan H., PhD</b> University of Michigan 734/763-6755 .....	2-74	<b>Chen, Yuying, MD, PhD</b> University of Alabama/ Birmingham 205/934-3320 .....	6-3
<b>Bruyère, Susanne, PhD</b> Cornell University 607/255-6751 .....	1-9, 5-5, 7-4	<b>Cherney, Leora R., PhD</b> Rehabilitation Institute Research Corporation 312/238-1117 .....	2-70, 3-37
<b>Burkhauser, Richard, PhD</b> Cornell University 607/255-9536 .....	1-9, 5-5	<b>Chiaravalloti, Nancy D., PhD</b> University of Medicine and Dentistry New Jersey Medical School 973/530-3640 .....	2-29, 2-81, 8-34
<b>Burns, Michael L.</b> Science, Math and Engineering, Inc. 978/663-9500 .....	3-65	<b>Chiarello, Lisa A., PT, PhD</b> Drexel University 215/762-8805 .....	2-86
<b>Buxbaum, Laurel, PsyD</b> Albert Einstein Healthcare Network 215/456-5953 .....	2-87		

<b>Cicerone, Keith D., PhD</b> JFK Johnson Rehabilitation Institute 732/906-2640 .....	2-28	<b>Dewald, Julius, PT, PhD</b> Northwestern University 312/908-6788 .....	3-38
<b>Clark, Allison, PhD</b> Memorial Herman The Institute for Rehabilitation and Research (TIRR) 713/630-0519 .....	2-92	<b>Diaz-Arrastia, Ramon R., MD, PhD</b> The University of Texas Southwestern Medical Center 214/648-6409 .....	2-39
<b>Cook, Judith A., PhD</b> University of Illinois at Chicago 312/355-3921 .....	8-3	<b>Dikjers, Marcel, PhD</b> Mount Sinai School of Medicine 212/659-8587 .....	2-31
<b>Copeland, Jana, PhD</b> Meeting the Challenge, Inc. 719/444-0268 .....	7-11	<b>Dikman, Suriyya, PhD</b> University of Washington 206/221-6511 .....	2-94
<b>Corrigan, John D., PhD</b> Ohio State University 614/293-8879 .....	2-34, 2-35	<b>Ding, Dan, PhD</b> University of Pittsburgh 412/954-5278 .....	8-37
<b>Coster, Wendy J., PhD</b> Boston University 617/353-7518 .....	4-25	<b>Donovan, William, MD</b> The Institute for Rehabilitation and Research (TIRR) 713/797-5023 .....	2-60
<b>Curry, Mary Ann</b> Oregon Health and Science University 503/494-8655 .....	4-19	<b>Drum, Charles, PhD</b> Oregon Health and Science University 503/494-8364 .....	2-10, 2-36
<b>Davies, Daniel</b> AbleLink Technologies, Inc. 719/592-0347 .....	3-60, 3-72	<b>Duggan, Colette, PhD</b> Wayne State University 313/745-1070 .....	4-28
<b>Davis, Maryann, PhD</b> University of Massachusetts Medical School 508/856-8718 .....	1-6	<b>Dutta, Alo PhD</b> Southern University A&M College 225/771-2819 .....	8-7
<b>de Jong, Jim</b> University of Missouri/Columbia 573/882-3600 (V/TTY) .....	7-10	<b>Dvorkin, Assaf Y., PhD</b> 312/238-5828 .....	8-14
<b>DeRuyter, Frank, PhD</b> Duke University 919/684-6271 .....	3-17, 3-16, 3-28	<b>Ehlhardt, Laurie, PhD</b> Teaching Research Institute 541/346-0572 .....	3-50

<b>Elbogen, Eric, PhD</b> University of North Carolina at Chapel Hill 919/966-5540 .....	4-32	<b>Finlayson, Marcia, PhD</b> University of Illinois at Chicago 312/996-4603 .....	2-71
<b>Englander, Jeffrey, MD</b> Santa Clara Valley Medical Center (SCVMC) 408/793-6446 .....	2-16, 2-62	<b>Fletcher, Valerie</b> Institute for Human Centered Design 617/695-1225, ext. 226 (V/TTY) .....	7-3
<b>Engrav, Loren H., MD</b> University of Washington 206/731-3209 .....	2-43, 2-46	<b>Flexer, Robert, PhD</b> Kent State University 330/672-0584 .....	4-36
<b>Epps, Irvine E., EdD</b> Texas Southern University 713/313-7224 .....	8-10	<b>Foley, Susan, PhD</b> University of Massachusetts Boston 617/287-4317 .....	1-3
<b>Esselman, Peter C., MD</b> University of Washington 206/731-3209 .....	2-46	<b>Foulds, Richard A., PhD</b> New Jersey Institute of Technology 973/596-3335 .....	3-14
<b>Falco, Ruth, PhD</b> Portland State University 503/725-4687 .....	4-38	<b>Fox, Lynn</b> Life Technologies, LLC 503/725-3188 .....	3-80
<b>Fann, Jesse R., MD, MPH</b> University of Washington 206/685-4280 .....	2-93	<b>Franzon, Paul D.</b> North Carolina State University 919/515-7351 .....	3-47
<b>Farkas, Marianne, ScD</b> Boston University 617/353-3549 .....	1-5, 4-7, 6-4	<b>Freed, Geoff</b> WGBH Educational Foundation 617/300-3700 .....	3-42
<b>Fatone, Stefania, PhD, BPO</b> Northwestern University 312/238-6500 .....	3-12	<b>Friedman, Robert, PhD</b> University of South Florida 813/974-4640 .....	4-4
<b>Fauerbach, James A., PhD</b> Johns Hopkins School of Medicine 410/550-0894 .....	2-23	<b>Fried-Oken, Melanie, PhD</b> Oregon Health and Science University 503/494-7587 .....	3-52
<b>Fernie, Geoff</b> University at Buffalo The State University of New York 716/829-3485 .....	3-15	<b>Friesen, Barbara, PhD</b> Portland State University 503/725-4166 .....	4-10
		<b>Fuller, Rebecca</b> RAF Models & Displays 336/722-4250 .....	3-48

<b>Gans, Bruce M., MD</b> Kessler Foundation Research Center 973/324-3658 .....	2-29	202/877-1196 .....	2-5, 2-6, 2-50
<b>Gard, Steven, PhD</b> Northwestern University 312/238-6500 .....	3-12	<b>Hammond, Flora M., MD</b> Carolinas HealthCare System 704/355-4330 .....	2-32, 2-33
<b>Gerber, Brian J. PhD</b> Louisiana State University 225/578-0238 .....	4-15	<b>Hanks, Robin A., PhD</b> Wayne State University 313/745-9763 .....	2-24
<b>Giacino, Joseph T., PhD</b> JFK Johnson Rehabilitation Institute 732/205-1461 .....	2-27	<b>Hanks, Robin A., PhD</b> Wayne State University 313/745-9763 .....	2-77
<b>Gill, Kenneth J., PhD</b> University of Medicine and Dentistry of New Jersey 908/889-2438 .....	8-32	<b>Harkins, Judy, PhD</b> Gallaudet University 202/561-5257 .....	3-22, 3-25
<b>Glaister, Brian C.</b> 414/807-7399 .....	8-21	<b>Harrington, Charlene, PhD, RN</b> University of California, San Francisco 415/476-4030 .....	4-3
<b>Glang, Ann E., PhD</b> Western Oregon University 541/346-0594 .....	4-18	<b>Harris, Gerald F., PhD, PE</b> Marquette University 414/288-0696 .....	2-96, 8-43, 8-44
<b>Gordon, Wayne A., PhD</b> Mount Sinai School of Medicine 212/659-9372 .....	2-8, 2-30	<b>Harrison-Felix, Cynthia, PhD</b> Craig Hospital 303/789-8565 .....	2-19
<b>Graham, James E., PhD</b> 409/747-1634 .....	8-20	<b>Hart, Debra, PhD</b> University of Massachusetts Boston 617/590-8082 .....	4-16
<b>Graves, Daniel, PhD</b> The Institute for Rehabilitation and Research (TIRR) 713/797-5023 .....	2-60	<b>Hart, Tessa, PhD</b> Albert Einstein Healthcare Network 215/663-6153 .....	2-37, 2-84
<b>Grigal, Meg, PhD</b> University of Massachusetts Boston 617/590-8082 .....	4-16	<b>Hassouneh, Dena, PhD</b> Oregon Health and Science University 503/494-2714 .....	2-83
<b>Groah, Suzanne L., MD</b> National Rehabilitation Hospital MedStar Research Institute			

<b>Havey, Gary D.</b> Advanced Medical Electronics Corporation 763/463-4814 .....	3-67, 3-77	<b>Hudson, Lesley M.</b> Shepherd Center, Inc. 404/350-7353 .....	2-51
<b>Heinemann, Allen W., PhD</b> Feinberg School of Medicine 312/238-2802 .....	5-3, 5-4, 8-22, 8-25	<b>Huggins, Jane, PhD</b> University of Michigan 734/936-7170 .....	3-45
<b>Heitzman-Powell, Linda S., PhD</b> University of Kansas 913/321-3143 .....	3-34, 4-22	<b>Hughes, Rosemary, PhD</b> University of Montana 406/243-2898 .....	4-29
<b>Helfrich, Christine A., PhD</b> College of Health & Rehabilitation Sciences: Sargent College 617/353-8947 .....	4-21, 4-26	<b>Hunter-Zaworski, Katharine, PhD</b> Oregon State University 541/737-4982 .....	3-49
<b>Heller, Tamar, PhD</b> University of Illinois at Chicago 312/413-1647 .....	4-5	<b>Hurdich, Jason C.</b> VCom3D, Inc. 407/737-7310 .....	3-61, 3-73
<b>Herndon, David, MD</b> University of Texas Medical Branch 409/770-6731 .....	2-40	<b>Iglehart, Frank, PhD</b> Clarke School for the Deaf 413/584-3450 .....	3-44
<b>Hoffman, Jeanne M., PhD</b> University of Washington 206/221-6511 .....	2-94	<b>Jackson, Amie B., MD</b> University of Alabama/ Birmingham 205/934-3330 .....	2-48
<b>Hornby, T. George, PhD, PT</b> Rehabilitation Institute of Chicago 312/238-1397 .....	2-69	<b>Jensen, Mark P. PhD</b> University of Washington 206/543-3185 .....	2-13
<b>Hornyak, Joseph, MD</b> University of Michigan 734/615-1904 .....	4-27	<b>Jette, Alan M., PhD</b> Boston University Medical Campus 617/638-1985 .....	8-26
<b>Hotz, Gillian A., PhD</b> University of Miami 305/243-4004 .....	2-65	<b>Johnson, Kurt, PhD</b> University of Washington 206/543-3677 .....	6-9, 8-42
		<b>Johnston, Mark, PhD</b> University of Wisconsin/ Milwaukee 414/229-3616 .....	2-95

<b>Jones, Erica C., MPH</b> Public Health Institute 510/285-5600 (V/TTY) .....	7-12	<b>Kiernan, William E. PhD</b> University of Massachusetts Boston 617/287-4311 .....	1-15
<b>Jones, Michael L., PhD</b> Shepherd Center, Inc. 404/350-7595 .....	2-68	<b>Kirshbaum, Megan, PhD</b> Through the Looking Glass 510/848-1112 (V) .....	4-14
<b>Jones, Robin A.</b> University of Illinois at Chicago 312/996-1059 .....	7-7	<b>Kloos, Bret, PhD</b> University of South Carolina 803/777-2704 .....	4-39
<b>Kalpakjian, Claire PhD</b> University of Michigan 734/763-0971 .....	2-76	<b>Koroloff, Nancy M.</b> Portland State University 503/725-9675 .....	4-11
<b>Kaplan, Shelley</b> 404/541-9001 .....	7-6	<b>Kowalske, Karen</b> The University of Texas Southwestern Medical Center 214/648-2288 .....	2-38
<b>Karg, Patricia, MS</b> University of Michigan 734/936-1103 .....	3-13	<b>Kraft, George H., MD</b> University of Washington 206/543-7272 .....	2-12
<b>Kartin, Deborah, PT PhD</b> University of Washington 206/598-5338 .....	8-42	<b>Krause, James S. PhD</b> Medical University of South Carolina 843/792-1337 .....	2-11, 2-88, 2-89, 2-91, 8-9
<b>Katz, Harry, PhD</b> Cornell University 607/255-9536 .....	5-5	<b>Kreutzer, Jeffrey S., PhD</b> Virginia Commonwealth University 804/828-9055 .....	2-42, 8-40, 8-41
<b>Kaye, Stephen H., PhD</b> University of California, San Francisco 415/476-4030 .....	4-3	<b>Lakin, Charlie, PhD</b> University of Minnesota 612/624-5005 .....	4-9, 5-9
<b>Keating, Thomas, PhD</b> Assistech Systems, LLC 541/342-3763 .....	4-42	<b>Lammertse, Daniel P., MD</b> Craig Hospital 303/789-8220 .....	2-49
<b>Kennedy, James J., PhD</b> Washington State University 509/368-6971 .....	5-12	<b>Landau, Steven</b> Touch Graphics, Inc. 212/375-6341 .....	3-78
<b>Kielhofner, Gary, PhD</b> University of Illinois at Chicago 312/996-4973 .....	8-24		

<b>Lane, Joseph</b> University at Buffalo The State University of New York 716/204-8606, x211 .....	6-5	<b>Maguire, Amy</b> The Sandbox Learning Company 800/704-7815 .....	4-33
<b>LaPlante, Mitch, PhD</b> University of California, San Francisco 415/476-4030 .....	4-3	<b>Manning, Sarah</b> Learnimation, LLC 212/361-3706 .....	3-69
<b>Lawson, William, MD, PhD</b> Dartmouth College 202/865-6611 .....	8-8	<b>Marino, J. Ralph, MD</b> Thomas Jefferson University 215/955-6579 .....	2-58
<b>Lee, Sang Wook, PhD</b> 312/238-6822 .....	8-17	<b>Matrone, Kathe, PhD</b> University of Washington 425/771-7436 .....	7-13
<b>Lemoncello, Richard</b> Life Technologies, LLC 541/915-8472 .....	3-81	<b>May, Michael</b> Sendero Group, LLC 530/757-6800 .....	3-58
<b>Levy, Robert M.</b> Criterion Health, Inc. 812/894-2120 .....	3-64	<b>McCann, William</b> Dancing Dots Braille Music Technology, L.P. 610/783-6692 .....	3-82
<b>Lewis, Allen, PhD</b> Virginia Commonwealth University 804/827-0914 .....	8-11	<b>McCue, Michael, PhD</b> University of Pittsburgh 412/383-6589 .....	3-21
<b>Lezotte, Dennis C., PhD</b> University of Colorado Denver - Anschutz Medical Campus 303/724-4388 .....	2-17	<b>McDonald, Craig, MD</b> University of California, Davis 530/752-3447 .....	2-3, 2-4
<b>Lichter, Patrick A.</b> Koronis Biomedical Technologies Corporation 612/730-1091 .....	3-68	<b>McGurk, Susan, PhD</b> Dartmouth College 603/271-5747 .....	1-22, 1-23
<b>Liu, Xue-Cheng, PhD</b> Medical College of Wisconsin 414/337-7323 .....	3-55, 3-56	<b>McMahon, Brian T. PhD</b> Virginia Commonwealth University 804/827-0917 .....	6-8
<b>Lueking, Richard G., PhD</b> TransCen, Inc. 301/424-2002 .....	7-5	<b>Milchus, Karen</b> Georgia Institute of Technology Center for Assistive Technology and Environmental Access (CATEA) 404/894-0393 .....	3-8, 3-36
<b>Madhavan, Sangeetha, PhD</b> 352/262-2569 .....	8-16		

<b>Miller, Nancy, PhD</b> University of Maryland/Baltimore County 410/455-3889 .....	5-8	<b>O’Neill, John, PhD</b> Hunter College of CUNY 212/772-5188 .....	1-11, 5-6
<b>Mitchell, Helena, PhD</b> Georgia Institute of Technology 404/367-1288 .....	3-7	<b>Oswald, Mary, PhD</b> Portland State University 503/725-9602 .....	4-37
<b>Molton, Ivan, PhD</b> University of Washington 206/543-3185 .....	2-13	<b>Ottenbacher, Kenneth J., PhD</b> University of Texas Medical Branch 409/747-1637 .....	5-10, 8-38
<b>Moore, Dennis C., EdD</b> Wright State University 937/775-1484 (V/TTY) .....	1-12	<b>Palfrey, Judith S., MD</b> Children’s Hospital 617/355-4661 .....	4-8
<b>Morris, Michael</b> Syracuse University 202/296-2046 .....	4-17	<b>Palsbo, Susan</b> Obslap, Inc. 541/505-7591 .....	3-79
<b>Munson, Leslie J., PhD</b> Portland State University 503/725-4687 .....	4-38	<b>Papadimitriou, Christina, PhD</b> 312/238-4856 .....	8-18
<b>Nash, Mark S., PhD</b> University of Miami 305/243-3628 .....	2-66	<b>Parish, Susan, PhD</b> University of North Carolina 919/962-6434 .....	2-82
<b>Nemunaitis, Gregory A., MD</b> MetroHealth System 216/778-5514 .....	2-57	<b>Parker, Jerry C., PhD</b> University of Missouri/Columbia 573/884-0042 .....	8-31
<b>Newcomer, Robert, PhD</b> University of California, San Francisco 415/476-4030 .....	4-3	<b>Parmanto, Bambang, PhD</b> University of Pittsburgh 412/383-6649 .....	3-29
<b>Nosek, Margaret A., PhD</b> Baylor College of Medicine 713/523-0909 .....	4-41	<b>Patton, Jim, PhD</b> Rehabilitation Institute Research Corporation 312/238-3919 .....	3-11
<b>Novack, Thomas A., PhD</b> University of Alabama/Birmingham 205/934-3283 .....	2-15	<b>Perry, Jennifer L.</b> University of Texas Medical Branch 409/770-6718 .....	4-40
<b>Odum, Mark X.</b> HeiTech Services, Inc. 301/459-5900 .....	6-11	<b>Pollard, Robert, PhD</b> University of Rochester School of Medicine 585/275-3544 .....	4-31

<b>Preston, Paul, PhD</b> Through the Looking Glass 510/848-1112 (V) .....	4-14	<b>Roth, Elliot J., MD</b> Rehabilitation Institute Research Corporation 312/238-4637 .....	2-7, 2-22
<b>Ragnarsson, Kristian T., MD</b> Mount Sinai School of Medicine 212/659-8587 .....	2-56	<b>Rowland, Charity, PhD</b> Oregon Health and Science University 503/494-2263 .....	3-51, 3-52
<b>Reichard, Amanda, PhD</b> University of Kansas 785/864-1618 .....	2-73	<b>Rowland, Jennifer</b> University of Illinois at Chicago 312/413-1850 .....	3-39
<b>Reinkensmeyer, David J., PhD</b> University of California 949/824-5218 .....	3-30	<b>Russinova, Zlatka, PhD</b> Boston University 617/353-3549 .....	8-27
<b>Reisinger, Kim, PhD</b> San Francisco State University 415/338-6277 .....	3-27	<b>Rymer, W. Zev, MD, PhD</b> Northwestern University 312/238-6051 .....	3-11, 8-23
<b>Ren, Yupeng</b> RehabTek, LLC 847/024-1659 .....	3-74	<b>Salzer, Mark, PhD</b> University of Pennsylvania 215/349-8483 .....	4-12
<b>Requejo, Philip, PhD</b> University of Southern California 323/442-2903 .....	2-14	<b>Samuel, Preethy, PhD</b> 313/577-8562 .....	8-19
<b>Ricketts, Todd A., PhD</b> Vanderbilt University School of Medicine 615/936-5258 .....	3-53	<b>Sander, Angelle M., PhD</b> The Institute for Rehabilitation and Research (TIRR) 713/630-0516 .....	4-13, 8-39
<b>Rimmer, James H., PhD</b> University of Illinois at Chicago 312/413-9651 .....	2-21, 3-10	<b>Saunders, Muriel D., PhD</b> University of Kansas 785/864-1618 .....	2-73
<b>Ristova-Trendov, Daniela, MD</b> Wayne State University 313/745-1070 .....	4-28	<b>Schlosser, Ralf W., PhD</b> Northeastern University 617/373-3785 .....	6-10
<b>Rogers, E. Sally, ScD</b> Boston University 617/353-3549 .....	1-5, 4-7, 4-24, 8-27	<b>Schneider, Lawrence W., PhD</b> University of Michigan 734/936-1103 .....	3-13
		<b>Sears, Andrew, PhD</b> UMBC 410/455-3883 .....	3-41

<b>Sears, Harold H. PhD</b> Motion Control, Inc. 801/326-3434 .....	2-97, 3-71, 3-83	<b>Steinfeld, Aaron, PhD</b> Carnegie Mellon University 412/268-6346 .....	3-20
<b>Seekins, Tom, PhD</b> University of Montana 406/243-2654 .....	1-7, 1-8	<b>Steinfeld, Edward, ArchD</b> University at Buffalo The State University of New York 716/829-3485 .....	3-15, 3-20
<b>Seel, Ronald T., Ph.D.</b> Shepherd Center, Inc. 404/367-1240 .....	2-67, 4-20	<b>Stergiou, Nicholas</b> University of Nebraska at Omaha 402/554-3247 .....	2-79
<b>Seifert, Greg</b> Advanced Medical Electronics Corporation 763/463-4814 .....	3-76	<b>Stock, Steven E.</b> AbleLink Technologies, Inc. 719/592-0347 .....	3-59
<b>Sheffield, Ellyn, PhD</b> National Public Radio 202/513-2484 .....	3-34	<b>Stone, John, PhD</b> University at Buffalo The State University of New York 716/829-3141, ext. 125 .....	6-6
<b>Shem, Kazuko, MD</b> Santa Clara Valley Medical Center (SCVMC) 408/885-7007 .....	2-63	<b>Struchen, Margaret, PhD</b> Memorial Herman The Institute for Rehabilitation and Research (TIRR) 713/630-0515 713/630-0519 .....	2-92
<b>Sherer, Mark, PhD</b> The Institute for Rehabilitation and Research (TIRR) 713/799-7007 .....	2-41	<b>Sundarrao, Stephen</b> Rehabilitation Ideas-Wheelchair Products and Accessories, Inc. 813/600-3058 .....	3-62
<b>Smith, Peter A, MD</b> Marquette University 414/288-0696 .....	2-96	<b>Sutter, Stephen M.</b> CreateAbility Concepts, Inc. 317/484-8400 .....	3-63, 3-75
<b>Sprigle, Stephen, PhD, PT</b> Georgia Institute of Technology 404/385-4302 .....	3-9	<b>Tan, Faye C., MD</b> Baylor College of Medicine 713/873-3875 .....	8-39
<b>Stapleton, David, PhD</b> Cornell University 607/255-9536 .....	1-9	<b>Tate, Denise G., PhD</b> University of Michigan 734/763-0971 .....	2-54, 8-28, 8-29
<b>Starling, Mike</b> National Public Radio 202/513-2484 .....	3-32, 3-35, 3-34		

<b>Tomita, Machiko, PhD</b> University at Buffalo The State University of New York 716/829-2300 .....	4-30	<b>West, Steven L., PhD, CRC</b> Virginia Commonwealth University 804/827-0921 .....	5-11
<b>Tulsky, David S., PhD</b> Kessler Medical Rehabilitation Research and Education Corporation (KMRREC) 973/243-6849 .....	2-55, 2-80	<b>Westbrook, John, PhD</b> SEDL 800/266-1832 (V/TTY) .....	1-19, 6-7
<b>Ulrich, Dale, PhD</b> University of Michigan 734/615-1904 .....	4-27	<b>White, Glen W., PhD</b> University of Kansas 785/864-4095 .....	4-6, 4-23
<b>Uslan, Mark</b> American Foundation for the Blind 304/523-8651 .....	3-54	<b>Whiteneck, Gale G., PhD</b> Craig Hospital 303/789-8204 .....	2-18, 2-20
<b>VanBiervliet, Alan, PhD</b> University of Arkansas for Medical Sciences 501/686-7348 .....	1-21	<b>Whitley, Rob PhD</b> Dartmouth College 603/448-0263 .....	8-8
<b>Vanderheiden, Gregg C., PhD</b> University of Wisconsin/Madison 608/263-5788 .....	3-22, 3-24, 3-25	<b>Whyte, John, MD, PhD</b> Albert Einstein Healthcare Network 215/663-6872 .....	2-85
<b>Wade, Shari L., PhD</b> Children's Hospital Medical Center 513/636-7480 .....	2-9, 4-34, 4-35	<b>Wilkinson, Wendy</b> The Institute for Rehabilitation and Research (TIRR) 713/520-0232 .....	7-9
<b>Warschausky, Seth A., PhD</b> University of Michigan 734/936-7052 .....	2-75	<b>Willer, Barry S., PhD</b> University at Buffalo The State University of New York 716/829-2300 .....	4-30
<b>Watson, Douglas, PhD</b> University of Arkansas 501/686-9691 .....	1-14	<b>Williams, Steve, MD</b> Boston University Medical Center 617/638-7316 .....	2-53
<b>Wehman, Paul, PhD</b> Virginia Commonwealth University 804/828-1851 .....	1-13, 1-20, 8-11	<b>Winstein, Carolee J., PhD, PT</b> University of Southern California 323/442-2903 .....	2-14
		<b>Wong, Yin Ling Irene, PhD</b> 215/898-5505 .....	8-13
		<b>Wu, Yi-Ning, PhD</b> 312/238-4296 .....	8-15

**Zhou, Ping, PhD**

Rehabilitation Institute of Chicago

312/238-1365 ..... 2-72

**Zollman, Felise, MD**

Rehabilitation Institute Research Corporation

312/238-4637 ..... 2-22



## Projects by Program Type

---



## ADA Technical Assistance Projects

DBTAC - Great Plains ADA Center - Region VII H133A060089 .....	7-10
DBTAC Rocky Mountain ADA Center - Region VIII H133A060079 .....	7-11
DBTAC: Great Lakes ADA Center H133A060097 .....	7-7
DBTAC: Mid-Atlantic ADA Center H133A060085 .....	7-5
DBTAC: Southeast ADA Center - Region IV H133A060094 .....	7-6
DBTAC-New England ADA Center - Region I H133A060092 .....	7-3
Disability and Business Technical Assistance Center - Northeast H133A060088 .....	7-4
Disability and Business Technical Assistance Center (DBTAC) — Northwest H133A070048 .....	7-13
Disability and Business Technical Assistance Center (DBTAC) — Pacific ADA Center H133A060098 .....	7-12
Southwest Disability and Business Technical Assistance Center (Southwest DBTAC- Region VI) H133A060091 .....	7-9

## Advanced Rehabilitation Research Training Projects

Advanced Psychiatric Rehabilitation Research on Employment and Community Integration H133P050006 .....	8-32
Advanced Rehabilitation Research and Disability Policy Training Center H133P070004 .....	8-36
Advanced Rehabilitation Research Training H133P080007 .....	8-39
Advanced Rehabilitation Research Training Center on Neurocognitive Rehabilitation H133P090009 .....	8-34
Advanced Rehabilitation Research Training Center on Neuro-musculoskeletal Rehabilitation H133P070007 .....	8-33
Advanced Rehabilitation Research Training in Pediatric Mobility H133P080005 .....	8-44
Advanced Rehabilitation Research Training Program H133P050004 .....	8-35

Advanced Rehabilitation Research Training Project in Rehabilitation Services Research H133P030002 .....	8-22
Advanced Rehabilitation Research Training Project in Rehabilitation Services Research H133P080006 .....	8-25
Advanced Research Training Program H133P040006 .....	8-40
Advanced Research Training Program in Neurobehavioral Recovery and Intervention H133P090013 .....	8-41
Advanced Research Training Program in Psychiatric Rehabilitation H133P070001 ....	8-27
Advanced Training in Translational and Transformational Research to Improve Vocational Outcomes for Persons with Disabilities H133P060003 .....	8-24
Career Advancement for Engineers in the Science of Rehabilitation (CAESOR) H133P090010 .....	8-37
Clinician Researchers and Engineers: Advanced Rehabilitation Research Training H133P040008 .....	8-43
Health Activity Rehabilitation Research Training Center (HARRTC) H133P050005 .....	8-31
Interdisciplinary Rehabilitation Research Training Program H133P040003 .....	8-38
Post-Doctoral Fellowship in Rehabilitation Outcomes and Effective Research H133P050001 .....	8-26
Rehabilitation Science for Basic Scientists and Engineers: An Advanced Training Program H133P040007 .....	8-23
The UMHS/AACIL Rehabilitation Research Training Program H133P030004 .....	8-28
The UMHS/AACIL Rehabilitation Research Training Program H133P090008 .....	8-29
University of Washington Advanced Rehabilitation Research Training H133P080008 .....	8-42

## Disability and Rehabilitation Research Projects

A Center on Postsecondary Education for Students with Intellectual Disabilities H133A080042 .....	4-16
---	------

A Multicenter Prospective Randomized Controlled Trial of the Effectiveness of Amantadine Hydrochloride in Promoting Recovery of Function Following Severe Traumatic Brain Injury H133A031713 .....	2-27	Outreach, and Research Center H133A060087 .....	6-8
Asset Accumulation and Economic Self- Sufficiency (AAESS) H133A080014 .....	4-17	Empowerment: Building Research Infrastructure Capacity H133A080060 .....	8-11
Building Knowledge and Capacity in the Rehabilitation and Recovery of African- Americans Suffering from Severe Mental Illness: The Dartmouth-Howard Collaboration. H133A080063 .....	8-8	Evacuation Methodology and Understanding Behavior of Persons with Disabilities in Disasters: A Blueprint for Emergency Planning Solutions H133A080069 .....	4-15
Carolinas Traumatic Brain Injury Rehabilitation and Research System (CTBIRRS) H133A070042 .....	2-32	Fundamental Issues in Wayfinding Technologies H133A060056 .....	3-26
Center for International Rehabilitation Research Information and Exchange (CIRRIE-2) H133A050008 .....	6-6	Health and Health Care Disparities Among Individuals with Disabilities H133A080031 .....	2-36
Center for Strategic Capacity Building on Minorities with Disabilities Research H133A040007 .....	8-5	Health Care Coordination for Individuals with Physical Disabilities: Critical Elements and Consumer Outcomes H133A080049 ...	2-25
Center on Effective Delivery of Rehabilitation Technology by Vocational Rehabilitation Agencies H133A090004 .....	1-18	Identification and Reporting of Violence by People with Disabilities H133A031724 .....	4-19
Center on Health Outcomes Research and Capacity Building for Underserved Populations with SCI and TBI H133A080064 .....	8-9	Improve the Employment Outcomes for the Low Functioning Deaf (LFD) Population H133A060044 .....	1-14
Center on Knowledge Translation for Technology Transfer H133A080050 .....	6-5	Individualized Planning for the First Year Following Acute Rehabilitation Project H133A080023 .....	2-35
Classification and Measurement of Medical Rehabilitation Interventions H133A080053 .....	2-31	Information Technology for Independence: Community-Based Research H133A021916 .....	3-29
Collaborative Spinal Cord Injury Model Systems Centers Program: Improving Spinal Cord Injury Rehabilitation Outcomes H133A060103 .....	2-18	Innovative Knowledge Dissemination and Utilization for Disability and Professional Organizations and Stakeholders H133A050006 .....	6-4
Consortium for Assistive Technology Outcomes Research (CATOR) II H133A060062 .....	3-28	JFK-Johnson Rehabilitation Institute TBI Model System H133A070030 .....	2-28
Controlled Trial of Venlafaxine XR for Depression After SCI: A Multisite Study H133A060107 .....	2-45	Johns Hopkins University Burn Injury Rehabilitation Model System (JHU-BIRMS) H133A070045 .....	2-23
Demand-Side Employment Placement Models H133A060033 .....	1-17	Mayo Clinic Traumatic Brain Injury Model System H133A070013 .....	2-26
Disability and Business Technical Assistance Centers: Coordination,		Michigan Traumatic Brain Injury Model System (SEMTBIS) H133A080044 .....	2-24
		Midwest Regional Traumatic Brain Injury Model System: Innovative Approaches to Improve Cognition, Function, and Community Living H133A080045 .....	2-22
		Minority Scholar/Champion Research Training Project H133A031704 .....	8-10

Model Systems Knowledge Translation Center (MSKTC) H133A060070 .....	6-9	The Moss Traumatic Brain Injury Model System H133A070040 .....	2-37
National Center for Parents with Disabilities and Their Families H133A080034 .....	4-14	The National Data and Statistical Center for the Traumatic Brain Injury Model Systems H133A060038 .....	2-19
National Center for the Dissemination of Disability Research (NCDDR) H133A060028 .....	6-7	The Rocky Mountain Regional Brain Injury System (RMRBIS) H133A070022 .....	2-20
National Spinal Cord Injury Statistical Center (NSCISC) H133A060039 .....	6-3	The Texas Traumatic Brain Injury Model System of TIRR H133A070043 .....	2-41
New York Traumatic Brain Injury Model System (NYTBIMS) H133A070033 .....	2-30	UCHSC Burn Model System Data Coordination Center (BMS/DCC) H133A070006 .....	2-17
North Texas Burn Rehabilitation Model System (NTBRMS) H133A070024 .....	2-38	University of Alabama at Birmingham (UAB) Traumatic Brain Injury Model System (UAB TBIMS) H133A070039 .....	2-15
North Texas Traumatic Brain Injury Model System (NT-TBIMS) H133A070027 .....	2-39	University of Washington Burn Model System H133A020103 .....	2-43
Northern California Traumatic Brain Injury Model System of Care H133A070038 .....	2-16	University of Washington Burn Model System H133A070047 .....	2-46
Northern New Jersey Traumatic Brain Injury System (NNJT BIS) H133A070037 .....	2-29	University of Washington Traumatic Brain Injury Model System H133A070032 .....	2-47
Ohio Regional TBI Model System H133A070029 .....	2-34	Virginia Commonwealth Traumatic Brain Injury Model System H133A070036 .....	2-42
Pediatric Burn Injury Rehabilitation Model System H133A070026 .....	2-40	Vocational Rehabilitation Service Models for Individuals with Autism Spectrum Disorders (VCU ASC Career Links) H133A080027 .....	1-20
Reducing Obesity and Obesity-Related Secondary Conditions in Adolescents with Disabilities H133A060066 .....	2-21	Vocational Rehabilitation: Transition Services that Lead to Competitive Employment Outcomes for Transition-Age Individuals with Blindness or Other Visual Impairments H133A070001 .....	1-16
Rehabilitation Research Institute for Underrepresented Populations (RRIUP) H133A031705 .....	8-7		
Research and Technical Assistance Center on Vocational Rehabilitation Program Management H133A090002 .....	1-15	<b>Fellowships (Distinguished)</b>	
School Transition & re-Entry Program (STEP): Systematic Hospital-to-School Transition for Students with Traumatic Brain Injury H133A060075 .....	4-18	Cross-Disability Study of CRS H133F090035 .....	8-13
SEDL's Vocational Rehabilitation Service Models for Individuals with Autism Spectrum Disorders H133A080007 .....	1-19	Demographic Soup: Disentangling the Conceptual, Political, and Methodological Dimensions of Disability Statistics H133F060011 .....	8-12
TBI Model System Collaborative Study of Amantadine for Post TBI Irritability and Aggression H133A080035 .....	2-33		
Technology Access in Resource-Limited Environments H133A090020 .....	3-27	<b>Fellowships (Merit)</b>	
The Effect of Scheduled Telephone Intervention on Outcomes After Traumatic Brain Injury (TBI) H133A040004 .....	2-44	Client-Centered Practices in Spinal Cord Injury (SCI) Rehabilitation H133F090053 ..	8-18
		Does the Non-Lesioned Hemisphere Influence Paretic Lower Limb Motor	

Function Following Stroke? H133F090009 .....	8-16
Inpatient Rehabilitation Volume-Outcomes Relationship H133F090030 .....	8-20
Psychometric Evaluation of the Family Quality of Life Survey for Minority Families H133F080024 .....	8-19
Subject-Specific EMG Pattern Classification to Promote Hand Rehabilitation in Stroke Survivors H133F090018 .....	8-17
The Effectiveness of Intelligent-Stretching Followed by Active Movement in Children with Cerebral Palsy H133F090042 .....	8-15
Turning the Corner for Amputee Rehabilitation: Identifying the Appropriate Torsional Stiffness to Maximize Biomechanical Performance H133F090050 .....	8-21
Virtual Reality-Based Assessment Tool for Spatial Neglect Following Stroke H133F080010 .....	8-14

**Field Initiated Projects (FIPs)**

A Longitudinal Study of Risk for Hospitalization, Pressure Ulcers, and Subsequent Injuries After Spinal Cord Injury H133G050165 .....	2-88
A Means of Expression: Online Communication Assessment to Improve Outcomes for Individuals with Severe Disabilities H133G070129 .....	3-51
A National Assessment of the Rates and Correlates of Alcohol and Other Drug Use by College Students with Disabilities H133G080123 .....	5-11
A New Measure of Subjective Fatigue in Persons with Traumatic Brain Injury H133G080168 .....	2-62
A Robotic Powered Wheelchair Trainer with Haptic Guidance as Needed H133G090111 .....	3-30
Accessible Digital Radio Broadcast Services H133G060187 .....	3-32
Accommodations and ADA for Post- Secondary Students with Disabilities H133G090222 .....	4-23

Adapted Assessment of Speed of Information Processing in Children with Cerebral Palsy H133G070044 .....	2-75
Adverse Outcomes Following Inpatient Rehabilitation: Trends and Reasons H133G060218 .....	2-95
Ambulation and Secondary Complications: Participants with Chronic Spinal Cord Injury. H133G090059 .....	2-91
An Automatic Fitting Algorithm for Cochlear Implant H133G060065 .....	3-33
Appropriate Directional Hearing Aid Switching in School Age Children H133G060012 .....	3-53
Assessing Safety Risk after Traumatic Brain Injury H133G080153 .....	4-20
Assessing the Impact of Medicare-D on SSDI Beneficiaries H133G070055 .....	5-12
Augmenting Language Therapy for Aphasia: A Randomized Double-Blind Placebo-Controlled Trial of Levodopa in Combination with Speech-Language Therapy H133G070074 .....	2-70
Beyond Hearing Aids: Training Resources to Improve the Capacity of VR Professionals Serving Consumers who are Hard of Hearing and Late Deafened H133G090170 .....	1-21
Biopsychosocial Factors that Predict TBI Post-Acute Rehabilitation Outcomes H133G070171 .....	2-67
Caption Accuracy Metrics Development Project H133G080093 .....	3-43
Captioning Solutions for Handheld Media and Mobile Devices Development H133G070122 .....	3-42
CIL-Based Abuse Education and Safety Planning Program for Women with Disabilities H133G070196 .....	4-29
Clinical Reliability and Validity of a Foot Model: Assessing Efficacy and Functional Outcome with Orthotic Intervention in Children with Cerebral Palsy H133G060155 .....	3-56
Cognitive Remediation, Illness Self- Management, and Supported Employment in Severe Mental Illness H133G090206 .....	1-23

Cognitive Training and Supported Employment in Severe Mental Illness H133G050230 .....	1-22	TBI and Factors that Affect Response to Treatment H133G070222 .....	2-92
Combining Technologies to Maximize Outcomes: Telemedicine and Online Training Program for Parents of Children with Autism H133G060238 .....	4-22	Effectiveness of a Teleconference Fatigue Management Program for People with Multiple Sclerosis H133G070006 .....	2-71
Conservative and Surgical Clubfoot Treatment: Multi-Center Study H133G060252 .....	2-96	Enhanced Motor Recovery Using Serotonergic Agents H133G060124 .....	2-69
Controlled Study of Affect Recognition Training for Individuals with Traumatic Brain Injury H133G080043 .....	4-30	Evaluating Dysphagia in Individuals with Spinal Cord Injury: Assessing Incidence, Associated Factors, and Preventable Complications H133G080165 .....	2-63
Daily Living and Community Skills Video Game for Children with Developmental Disabilities H133G080151 .....	4-33	Evaluating the Effects of Activity-Based Therapy for Individuals with Chronic Spinal Cord Injury H133G080031 .....	2-68
Developing a Relevant Instrument to Assess Caregiver Distress and Benefit in Spinal Cord Injury H133G090013 .....	2-64	EVIDAAC: A Database of Appraised Evidence in Augmentative and Alternative Communication H133G070150 .....	6-10
Developing College Campuses as Transition Settings for Students with Severe and Multiple Disabilities Aged 18-21 H133G080158 .....	4-36	Exercise Treatment of Obesity-Related Secondary Conditions in Adults with Paraplegia H133G080150 .....	2-66
Development and Use of a Multi-State Database on Individual Outcomes and their Predictors for Persons with Intellectual and Developmental Disabilities in the US H133G080029 .....	5-9	Experimental Evaluation of the Online and Applied System for Intervention Skills (OASIS) Training Program Using Video-Conferencing for Parents of Children with an Autism Spectrum Disorder H133G090136 .....	3-34
Development of a Safety-Planning Tool for Men with Disabilities H133G070190 .....	4-37	Health Care Disparities in Access and Utilization among Individuals with Disabilities H133G090133 .....	5-8
Development of an Intelligently Controlled Assistive Rehabilitation Elliptical (ICARE) Training System to Promote Walking and Fitness in Persons with Physical Limitations H133G070209 .....	2-78	Homeless Mentally Ill: Strategies for Maintaining Residential Stability H133G060180 .....	4-21
Development of an Internet-Based Self-Esteem Intervention for Women with Disabilities H133G080042 .....	4-41	Impact of Prospective Payment and Rehabilitation Outcomes H133G080163 ....	5-10
Development of Dynamic Pedorthosis for Improving Clubfoot Correction H133G060142 .....	3-55	Improved Weight Bearing Evaluation of Knee Osteoarthritis H133G080136 .....	3-46
Development of Measures of Participation and Environment for Children with Disabilities H133G070140 .....	4-25		
Direct vs. Interpreted Administration of the SPAT H133G090189 .....	4-31	<b>Field Initiated Projects (FIPs)</b>	
Effectiveness of a Group Cognitive-Behavioral Intervention for Depression after		Improving Cervical and Breast Cancer Screening for Women with Intellectual Disabilities H133G090124 .....	2-82

Instrument to Measure Recovery-Promoting Competence Among Providers Serving Spanish Speaking Mental Health Consumers H133G060071 .....	4-24	Participation, Subjective Well-Being, Health, and Spinal Cord Injury: A 35-Year Longitudinal Study H133G060126 .....	2-89
Investigating Environmental Factors Affecting Community Integration H133G090036 .....	4-39	Pathways to Depression: An Examination of Vulnerability and Stress in Adults with Spinal Cord Injury H133G070020 .....	2-76
Investigating the Effects of Snoezelen in Children Recovering from Severe Brain Injury H133G070119 .....	2-65	Personal Audio Information Service H133G070093 .....	3-34
Investigation of Interventions for Sitting Postural Control in Young Children with Moderate to Severe Cerebral Palsy H133G080023 .....	2-79	Preparations for In-home Testing of Brain-Computer Interfaces Operating Assistive Technology H133G090005 .....	3-45
Life Skills: Transitioning from Homelessness and Isolation to Housing Stability and Community Integration H133G090046 .....	4-26	Public Spending for Disability in the United States: A Comparative, Longitudinal Study H133G070163 .....	5-7
Making Small Visual Displays Accessible to People with Vision Loss H133G090026 .....	3-54	Quality of Life in Traumatic Brain Injury Research and Practice: Development of the TBI-QOL H133G070138 .....	2-80
Micromachined Braille Reader H133G070135 .....	3-47	Researching Accessibility Gaps in Transit Hub Communication Systems and Standards H133G090242 .....	3-49
Minimal Classroom Requirements for Optimal Acoustic Access to Speech by Children with and Without Hearing Loss H133G060116 .....	3-44	RISE - Reflection, Insight, and Self-Empowerment: Development of a Cognitive Behavioral Group Therapy Intervention for Women with Physical Activity Disabilities who Experience Depression H133G070214 .....	2-83
Multimodal Access to Information Graphics H133G080047 .....	3-31	Sensorimotor Training and Assessment in Adults with Hemiplegic Cerebral Palsy: The ULTrA Program H133G050151 .....	2-74
Natural History of Headache Following Mild Traumatic Brain Injury H133G090022 .....	2-94	Systematic Study of the Effectiveness of AAC Intervention to Improve Conversation in Individuals with Degenerative Language Disorders H133G080162 .....	3-52
Neuroanatomical Correlates of Positive Psychology Among People with Traumatic Brain Injury: A Biopsychosocial Model H133G080064 .....	2-77	Teen Online Problem Solving for Pediatric Brain Injury H133G050239 .....	4-34
Noninvasive Examination of ALS Using Surface EMG H133G090093 .....	2-72	Telephone and In-Person Cognitive Behavioral Therapy for Depression After Traumatic Brain Injury H133G070016 .....	2-93
Optimized Hands-Free Speech Recognition H133G050354 .....	3-41	The Captioned Braille Radio Initiative: Providing Emergency Information for Individuals who are Deaf-Blind H133G090139 .....	3-35
Outpatient Social Skills Training for Distressed Adolescent Burn Survivors H133G050079 .....	4-40	The Effects of a Bicycle Training Intervention on Health, Physical Activity, Sleep, and Community Participation in Youth with Down Syndrome and Autism Spectrum Disorders H133G090006 .....	4-27
Overcoming Gravity Induced Arm and Hand Dysfunction to Restore Functional Reaching Following Stroke H133G070089 .....	3-38		
Parent-Infant Interaction Project (PIIP) H133G080132 .....	4-38		

The TATE Project: Training Assistive Technology in the Environment H133G090227 .....	3-50	Northeast Ohio Regional Spinal Cord Injury System H133N060017 .....	2-57
Treatment Components and Active Ingredients in a Scheduled Telephone Intervention for Traumatic Brain Injury H133G070143 .....	2-84	Northern New Jersey Spinal Cord Injury System H133N060022 .....	2-55
Understanding the Determinants of Motor Ability, Self-Care, and Play of Young Children with Cerebral Palsy H133G060254 .....	2-86	Northwest Regional Spinal Cord Injury System H133N060033 .....	2-61
Universal Design of Tactile Exhibits with Touch Activated Descriptive Audio for Aquariums H133G060284 .....	3-48	Regional Spinal Cord Injury Center of the Delaware Valley H133N060011 .....	2-58
Video Gaming Technology to Promote Health and Fitness Among Adolescents with Disabilities H133G080120 .....	3-39	Texas Model Spinal Cord Injury System H133N060003 .....	2-60
Virtual Reality Assessment and Treatment of Hemispatial Neglect H133G060086 .....	2-87	The New England Regional Spinal Cord Injury Center H133N060024 .....	2-53
Web Therapy to Improve Outcomes After Traumatic Brain Injury in Young Children H133G060167 .....	4-35	The Rocky Mountain Regional Spinal Injury System H133N060005 .....	2-49
Web-Based Treatment for Aphasia H133G060055 .....	3-37	UAB Model Spinal Cord Injury Care System H133N060021 .....	2-48
Weight Loss by Individuals with Physical Disabilities H133G090230 .....	2-73	University of Michigan Model Spinal Cord Injury Care System H133N060032 .....	2-54
Work Environment and Quality of Life Outcomes: A Comparison of the Experiences of Formal and Informal Caregivers of Persons with Spinal Cord Injuries H133G060267 ...	4-28	University of Pittsburgh Model Center on Spinal Cord Injury H133N060019 .....	2-59
Workplace Accommodation Wizard: An Assessment and Accommodation Tool for Employers H133G070063 .....	3-36		
Zolpidem and Restoration of Consciousness: An Exploration of the Mechanism of Action H133G080066 .....	2-85		
 <b>Model Spinal Cord Injury Systems</b>		 <b>Rehabilitation Engineering Research Centers (RERCs)</b>	
Georgia Regional Spinal Cord Injury Care System H133N060009 .....	2-51	Rehabilitation Engineering and Research Center (RERC) on Universal Design and the Built Environment at Buffalo H133E050004 .....	3-15
Midwest Regional Spinal Cord Injury Care System (MRSCIS) H133N060014 .....	2-52	Rehabilitation Engineering Research Center for Cognitive Rehabilitation H133E090003 ..	3-5
Mount Sinai Spinal Cord Injury Model System H133N060027 .....	2-56	Rehabilitation Engineering Research Center for Communication Enhancement (AAC-RERC) H133E080011 .....	3-17
National Capital Spinal Cord Injury Model System H133N060028 .....	2-50	Rehabilitation Engineering Research Center for Prosthetics and Orthotics H133E080009 .....	3-12
		Rehabilitation Engineering Research Center for Successful Aging with Disability: Optimizing Participation Through Technology (OPTT-RERC) H133E080024 .....	2-14
		Rehabilitation Engineering Research Center for the Advancement of Cognitive Technologies (RERC-ACT) H133E040019 .....	3-4
		Rehabilitation Engineering Research Center for Universal Interface and Information Technology Access H133E080022 .....	3-24

Rehabilitation Engineering Research Center for Wheeled Mobility in Everyday Life H133E080003 .....	3-9
Rehabilitation Engineering Research Center for Wireless Technologies H133E060061 .....	3-7
Rehabilitation Engineering Research Center on Accessible Public Transportation H133E080019 .....	3-20
Rehabilitation Engineering Research Center on Children with Orthopedic Disabilities H133E050011 .....	3-14
Rehabilitation Engineering Research Center on Communication Enhancement H133E030018 .....	3-16
Rehabilitation Engineering Research Center on Hearing Enhancement H133E080006 .....	3-6
Rehabilitation Engineering Research Center on Recreational Technologies and Exercise Physiology Benefiting Persons with Disabilities (RERC RecTech) H133E070029 .....	3-10
Rehabilitation Engineering Research Center on Spinal Cord Injury H133E070024 .....	3-19
Rehabilitation Engineering Research Center on Telecommunication Access H133E040013 .....	3-22
Rehabilitation Engineering Research Center on Telecommunications Access H133E090001 .....	3-25
Rehabilitation Engineering Research Center on Telerehabilitation H133E040012 .....	3-18
Rehabilitation Engineering Research Center on Telerehabilitation H133E090002 .....	3-21
Rehabilitation Engineering Research Center on Wheelchair Transportation Safety H133E060064 .....	3-13
Rehabilitation Engineering Research Center on Workplace Accommodations H133E070026 .....	3-8
Rehabilitation Engineering Research Center: Develop and Evaluate Technology for Low Vision, Blindness, and Multi-Sensory Loss H133E060001 .....	3-3
Rehabilitation Robotics and Telemanipulation Machines Assisting Recovery from Stroke Rehabilitation	

Engineering Research Center (MARS- RERC) H133E070013 .....	3-11
--	------

### **Rehabilitation Research and Training Centers (RRTCs)**

Developing Strategies to Foster Community Integration and Participation (CIP) for Individuals with Traumatic Brain Injury H133B090023 .....	4-13
Improved Employment Outcomes for Individuals with Psychiatric Disabilities H133B090014 .....	1-5
Learning and Working During the Transition to Adulthood H133B090018 .....	1-6
Multiple Sclerosis Rehabilitation Research and Training Center H133B080025 .....	2-12
Opening Doors for Children with Disabilities and Special Health Care Needs H133B060012 .....	4-8
Personal Assistance Services (PAS) in the 21st Century H133B080002 .....	4-3
Rehabilitation Research and Training Center for Children's Mental Health H133B040024 .....	4-4
Rehabilitation Research and Training Center for Community Integration for Individuals with Disabilities, Strengthening Family and Youth Participation in Child and Adolescent Mental Health Services H133B040038 .....	4-10
Rehabilitation Research and Training Center for Community Living and Employment for Individuals with Intellectual and Developmental Disabilities H133B080005 ...	4-9
Rehabilitation Research and Training Center for Health and Function Across the Lifespan of Individuals with Intellectual and Developmental Disabilities H133B080009 ...	4-5
Rehabilitation Research and Training Center for Pathways to Positive Futures: Supporting Successful Transition for Youth and Young Adults with Serious Mental Health Conditions H133B090019 ...	4-11
Rehabilitation Research and Training Center for Recovery and Recovery Oriented Psychiatric Rehabilitation for Persons with Long-Term Mental Illness H133B040026 .....	4-7
Rehabilitation Research and Training Center	

for Vocational Rehabilitation Research		Community Living (RRTC/MICL)	
H133B070001 .....	1-3	H133B060018 .....	4-6
Rehabilitation Research and Training Center		Rehabilitation Research and Training Center	
in Neuromuscular Diseases (RRTC/NMD)		on Measuring Rehabilitation Outcomes and	
H133B031118 .....	2-3	Effectiveness H133B040032 .....	5-3
Rehabilitation Research and Training Center		Rehabilitation Research and Training Center	
in Neuromuscular Diseases (RRTC-NMD)		on Participation and Community Living of	
H133B090001 .....	2-4	Individuals with Psychiatric Disabilities	
Rehabilitation Research and Training Center		H133B080029 .....	4-12
on Aging with a Physical Disability:		Rehabilitation Research and Training Center	
Reducing Secondary Conditions and		on Secondary Conditions in Individuals	
Enhancing Health and Participation,		with SCI H133B090005 .....	2-11
Including Employment H133B080024 .....	2-13	Rehabilitation Research and Training Center	
Rehabilitation Research and Training Center		on Secondary Conditions in Spinal Cord Injury	
on Demographics and Statistics		H133B090002 .....	2-6
H133B031111 .....	5-5	Rehabilitation Research and Training Center	
Rehabilitation Research and Training Center		on Spinal Cord Injury: Promoting Health and	
on Disability in Rural Communities		Preventing Complications through Exercise	
H133B030501 .....	1-7	H133B031114 .....	2-5
Rehabilitation Research and Training Center		Rehabilitation Research and Training Center	
on Disability in Rural Communities		on Substance Abuse, Disability, and	
H133B080023 .....	1-8	Employment H133B040012 .....	1-12
Rehabilitation Research and Training Center		Rehabilitation Research and Training Center	
on Disability Statistics and Demographics		on Traumatic Brain Injury Interventions	
H133B080012 .....	5-6	H133B040033 .....	2-8
Rehabilitation Research and Training Center		Rehabilitation Research and Training Center	
on Employment Policy and Individuals with		on Workplace Supports and Job Retention	
Disabilities H133B040013 .....	1-9	H133B040011 .....	1-13
Rehabilitation Research and Training Center		University of Illinois at Chicago National Re-	
on Employment Service Systems H133B040014		search and Training Center on Psychiatric Dis-	
1-11		ability H133B050003 .....	8-3
Rehabilitation Research and Training Center			
on Enhancing the Functional and		<b>Small Business Innovation Research (SBIR),</b>	
Employment Outcomes of Individuals Who		<b>Phase I</b>	
Experience a Stroke H133B080031 .....	2-7	A Display Reader for the Vision Impaired	
Rehabilitation Research and Training Center		H133S090069 .....	3-67
on Health and Wellness in Long Term		A Navigation and Object-Location System to	
Disability H133B040034 .....	2-10	Assist Blind and Low-Vision Individuals in	
Rehabilitation Research and Training Center		Indoor Environments H133S090099 .....	3-63
on Improving Measurement of Medical		Clothing Worn by Individuals with Visual	
Rehabilitation Outcomes H133B090024 .....	5-4	Impairments as a Hands-Free Common	
Rehabilitation Research and Training Center		Platform for GPS WayFinding Systems and	
on Interventions for Children and Youth		Obstacle Avoidance Systems	
with TBI H133B090010 .....	2-9	H133S090064 .....	3-65
Rehabilitation Research and Training Center		Cooling System for Multiple Sclerosis	
on Measurement and Interdependence in		Patients H133S090061 .....	3-66

CTAS: A Self-Directed Computer Technology Assessment System for Students and Adults with Intellectual Disabilities H133S090012 .....	3-59
Development of a Global Access Information Navigation (GAIN) for Persons Who Are Blind or Have Low Vision H133S090026 .....	3-58
Early Math Intervention Program for Improved Comprehension and Communication in Problem Solving for Students with Learning Disabilities H133S090104 .....	3-69
Haptic Feedback Improvements for Prostheses H133S090044 .....	3-70
Hearsay: A Context-Driven Assistant Browser for Non-Visual Web Access H133S090065 .....	3-57
Increasing Mobility and Maneuverability of Wheelchairs for Indoor, Transportation, and Recreational Activities H133S090106 .....	3-62
LiveWire: A Context-Aware, Location-Based Wireless Activity Support System to Facilitate Independence for Individuals with Intellectual Disabilities H133S090027 .....	3-60
Mobile Math Signing Dictionary for iPod Touch H133S090074 .....	3-61
New Electro-Hydraulic Foot Prosthesis H133S090067 .....	3-71
Transportation Assistant for the Cognitively Impaired H133S090055 .....	3-68
Variable Position Mid-Wheel Drive System for Power Wheelchairs H133S090013 .....	3-64

### **Small Business Innovation Research (SBIR), Phase II**

A Low-Cost Portable/Wearable Device for Intelligent Stretching and Movement Training of Hypertonic Forearm in Stroke with Outcome Evaluation H133S080076 ...	3-74
ADL Access: A Cognitively Accessible Software Application for Augmented Self-Management of Activities of Daily Living H133S090138 .....	4-42
ATLAS: An Accessible Testing, Learning, and Assessment System for Individuals with	

Intellectual Disabilities to Facilitate Inclusion and Access to the General Curriculum H133S080066 .....	3-72
Audio-Tactile Interactive Computing with the Livescribe Pulse Pen H133S090137 .....	3-78
Connectivity to Modern Electronics for the Hearing Disabled H133S090130 .....	3-77
Hearing Companion: Handheld Portable Sound Identification and Critical Alerting Functionality for People Who Are Deaf or Have Hearing Loss H133S080075 .....	3-75
Low Vision Lime: Solution for Low Vision Musicians to Read, Perform, Write, and Print Music Notation H133S070089 .....	3-82
My Scrivener™ Innovative Technology to Enhance Fine Motor Function H133S070082 .....	3-79
Signing Science Pictionary for Young Learners Who are Deaf or Hard of Hearing H133S090134 .....	3-73
Television Assisted Promotion (TAP): Enhancing Rehabilitation Outcomes with Familiar Technology H133S080077 .....	3-81
Utility Arm – An Upper Limb Prosthesis H133S090131 .....	2-97
Why Go It Alone? The Use of Public Resources to Enhance Computer Accessibility for Individuals with Intellectual Disabilities H133S070096 .....	3-80
Wireless EMG Preamp and Improved Mounting System H133S070084 .....	3-83
Wireless Wrist Device to Alert the Deaf of Sounds and Events in Their Environment H133S080068 .....	3-76

### **Utilization Projects**

ABLEDATA ED-04-CO-0018/0007 .....	6-12
National Rehabilitation Information Center (NARIC)ED-08-CO-0095 .....	6-11

## Model System and Collaborative Projects

---



## **Model Brain Injury Systems**

Carolinas Traumatic Brain Injury Rehabilitation and Research System (CTBIRRS) H133A070042 .....	2-32
JFK-Johnson Rehabilitation Institute TBI Model System H133A070030 .....	2-28
Mayo Clinic Traumatic Brain Injury Model System H133A070013 .....	2-26
Michigan Traumatic Brain Injury Model System (SEMTBIS) H133A080044 .....	2-24
Midwest Regional Traumatic Brain Injury Model System: Innovative Approaches to Improve Cognition, Function, and Community Living H133A080045 .....	2-22
The Moss Traumatic Brain Injury Model System H133A070040 .....	2-37
The National Data and Statistical Center for the Traumatic Brain Injury Model Systems H133A060038 .....	2-19
New York Traumatic Brain Injury Model System (NYTBIMS) H133A070033 .....	2-30
North Texas Traumatic Brain Injury Model System (NT-TBIMS) H133A070027 .....	2-39
Northern California Traumatic Brain Injury Model System of Care H133A070038 .....	2-16
Northern New Jersey Traumatic Brain Injury System (NNJTBIS) H133A070037 .....	2-29
Ohio Regional TBI Model System H133A070029 .....	2-34
The Rocky Mountain Regional Brain Injury System (RMRBIS) H133A070022 .....	2-20
The Texas Traumatic Brain Injury Model System of TIRR H133A070043 .....	2-41
University of Alabama at Birmingham (UAB) Traumatic Brain Injury Model System (UAB TBIMS) H133A070039 .....	2-15
University of Washington Traumatic Brain Injury Model System H133A070032 .....	2-47
Virginia Commonwealth Traumatic Brain Injury Model System H133A070036 .....	2-42

## **Model Burn Injury Systems**

Johns Hopkins University Burn Injury Rehabilitation Model System (JHU-BIRMS) H133A070045 .....	2-23
North Texas Burn Rehabilitation Model System (NTBRMS) H133A070024 .....	2-38
Pediatric Burn Injury Rehabilitation Model System H133A070026 .....	2-40
UCHSC Burn Model System Data Coordination Center (BMS/DCC) H133A070006 .....	2-17
University of Washington Burn Model System H133A020103 .....	2-43
University of Washington Burn Model System H133A070047 .....	2-46

## **Model Spinal Cord Injury Systems**

Georgia Regional Spinal Cord Injury Care System H133N060009 .....	2-51
Midwest Regional Spinal Cord Injury Care System (MRSCIS) H133N060014 .....	2-52
Mount Sinai Spinal Cord Injury Model System H133N060027 .....	2-56
National Capital Spinal Cord Injury Model System H133N060028 .....	2-50
National Spinal Cord Injury Statistical Center (NSCISC) H133A060039 .....	6-3
The New England Regional Spinal Cord Injury Center H133N060024 .....	2-53
Northern New Jersey Spinal Cord Injury System H133N060022 .....	2-55
Northwest Regional Spinal Cord Injury System H133N060033 .....	2-61
Regional Spinal Cord Injury Center of the Delaware Valley H133N060011 .....	2-58
The Rocky Mountain Regional Spinal Injury System H133N060005 .....	2-49
Texas Model Spinal Cord Injury System H133N060003 .....	2-60
UAB Model Spinal Cord Injury Care System H133N060021 .....	2-48
University of Michigan Model Spinal Cord Injury Care System H133N060032 .....	2-54
University of Pittsburgh Model Center on Spinal Cord Injury H133N060019 .....	2-59

## **Collaborative Projects**

Collaborative Spinal Cord Injury Model Systems Centers Program: Improving Spinal Cord Injury Rehabilitation Outcomes H133A060103 .....	2-18
Controlled Trial of Venlafaxine XR for Depression After SCI: A Multisite Study H133A060107 .....	2-45
Individualized Planning for the First Year Following Acute Rehabilitation Project H133A080023 .....	2-35
TBI Model System Collaborative Study of Amantadine for Post TBI Irritability and Aggression H133A080035 .....	2-33