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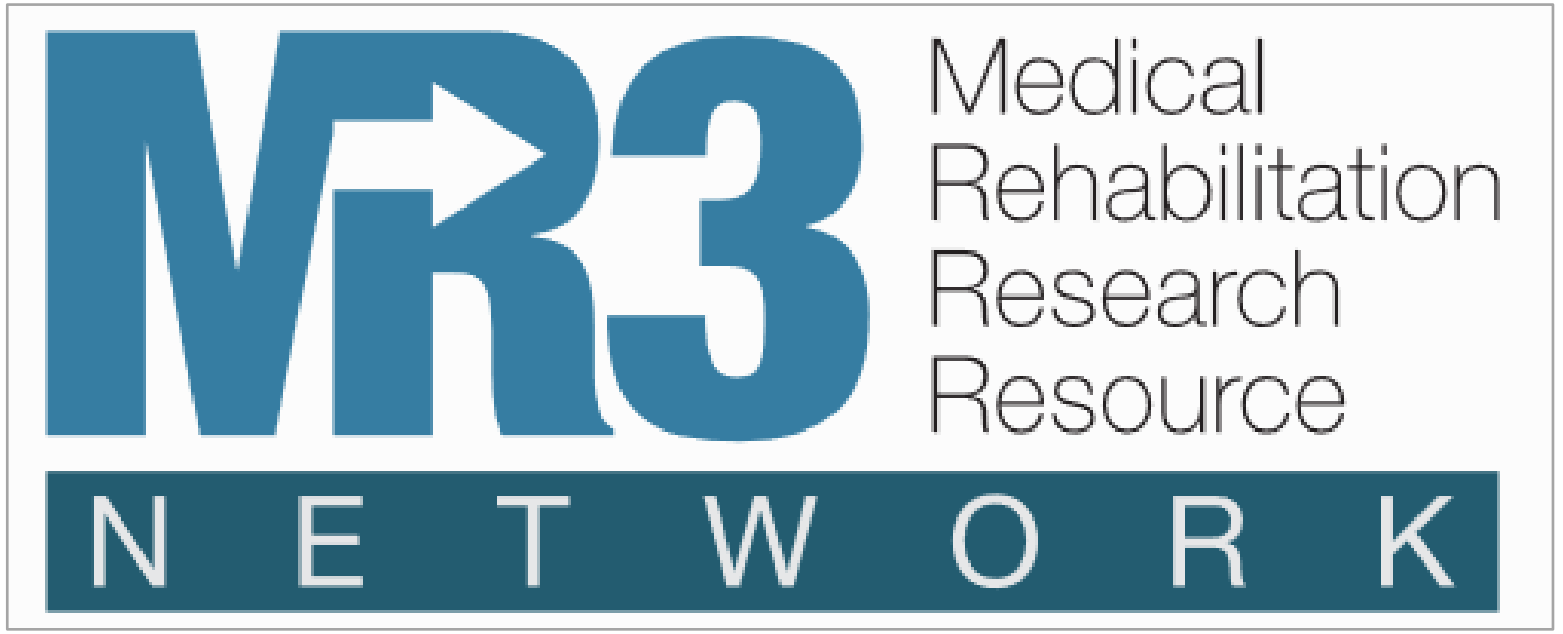

Coordinating Center

Web: NCMRR.ORG

Email: mr3network@musc.edu

Medical Rehabilitation Research Resource Network

The Medical Rehabilitation Research Resource (MR3) Network comprises six Rehabilitation Research Resource Centers that provide infrastructure and access to expertise, technologies, and resources to foster clinical and translational research in medical rehabilitation. MR3 Network centers offer expertise from the cell to whole body across the lifespan to implementation into practice with expertise in regenerative rehabilitation, neuromodulation, pediatric rehabilitation, technology for real-world assessment, and translation/ dissemination research.

National Center for Medical Rehabilitation Research
Eunice Kennedy Shriver National Institute of Child Health and Human Development
NIH Partner Institutes: NCCIH, NIBIB, NIDCD, NINDS, NINR

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mr3network@musc.edu

AR3T
Alliance for Regenerative Rehabilitation Research and Training

LeaRRn
LEARNING HEALTH SYSTEMS REHABILITATION RESEARCH NETWORK

Shirley Ryan Abilitylab
Northwestern University

NATIONAL CENTER OF NMAR Neuromodulation for Rehabilitation
An NIH Medical Rehabilitation Research Resource Network Center at Medical University of South Carolina

Restore

National Pediatric Rehabilitation Resource Center
Growing research, educating, and sharing science

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The MR3 Network's 4th Annual Scientific Retreat...

Catalyzing Transdisciplinary Research to Develop Innovative Rehabilitation Approaches with Lasting Impacts

September 19-20, 2024 | Via Zoom

Announcing Keynote Speakers!

Diana W. Bianchi, M.D.
Director of the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development

Michael L. Boninger, M.D.
Distinguished Professor, Department of Physical Medicine & Rehabilitation at the University of Pittsburgh, School of Medicine
Associate Dean for Sustainability, School of Medicine
Chief Medical Sustainability Officer, UPMC

The MR3 Network is supported in part by the National Institutes of Health through the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development

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How we can support your research efforts:

DIDACTIC INTERACTIONS

MENTORED COLLABORATIVE OPPORTUNITIES

PILOT FUNDING

TECHNOLOGY DEVELOPMENT

PROMOTING EXPERTISE

Impact of NC NM4R

Metric	Achievement
# of Mentored Collaborations	137
$ of Extramural Grant Awards from Pilots	$15.3 Million
$ of Extramural Grant Awards from Mentored Collaborations/Consults	$25 Million

**** Of special note: For each dollar we have given out the return in grant funding for recipients is about $41!!!**

Andrew Quesada Tan, Ph.D.

University of Colorado, Boulder, Integrative Physiology

Examining the relationship between changes in corticospinal excitability and motor learning after acute intermittent hypoxia in persons with incomplete spinal cord injury

Spinal cord injury (SCI) results in sensorimotor deficits, leading to chronic mobility impairments and loss of functional independence. Modest breathing modest bouts of low oxygen (acute intermittent hypoxia; AIH), is a promising intervention shown to enhance motor recovery in persons with spinal cord injury, yet we do not fully understand why AIH augments walking performance. Increases in corticospinal excitability are commonly interpreted as a marker of gains in motor output (e.g., speed) but may not necessarily reflect changes in motor learning and movement energetics after AIH induced plasticity. The objective of this study is to examine if AIH elicits improvements in lower limb control by measuring the capacity to learn a walking adaptation task as well as the ability to modulate metabolic expenditure during the motor learning process. Discerning the behavioral relevance of corticospinal excitability in relation to motor learning and metabolic expenditure may be a key feature in optimizing neurorehabilitation interventions in persons with SCI. Please visit the Sensorimotor Recovery and Neuroplasticity Laboratory page for more information.

Common Collaborations

- Translating techniques from basic science to human clinical studies
- Collaborative data collection
- Study design consultation
- Feasibility consultation
- Data analysis methods consultation
- Methodologic discussion and refinement of aims & approaches

Collaboration Statistics

137
Mentored Collaborations to date

36
Publications by collaborators

18
Funded extramural grants by collaborators

54%
Collaborators who are women

Current Active Collaborations (Aiko Thompson, PhD)

Investigating the Relationship Between taVNS and Spinal Motoneuron Pool Excitability
Kara Donovan, Ph.D. candidate; Peter Brunner, Ph.D.
Washington University at St. Louis

Closed-loop Afferent Feedback Control for Operant Conditioning During Locomotion Training
Victor Duenas, Ph.D.
Syracuse University

Operant Down-Conditioning of the Soleus H-reflex in Adults with Spastic Cerebral Palsy
Devina Kumar, PT, Ph.D.
Burke Neurological Institute

Spinal Reflex Conditioning to Decrease Spasticity and Improve Motor Function in Adults with Spastic Cerebral Palsy
Kathleen Friel, Ph.D.
Burke Neurological Institute

Operant Conditioning of Reciprocal Inhibition on Ankle Plantarflexors in People after Stroke
Jing Nong Liang, PT, Ph.D.
University of Nevada, Las Vegas

Examining the Effects of MEP Operant Conditioning on the Upper Extremity Intermuscular Coordination after Stroke
Jinsook Roh, Ph.D.
University of Houston

Medical Rehabilitation Research Resource (P50)

Will probably have pilot grant programs
Possibly mentored collaborations
Other ways to get funding

Learn more about how we can be a research resource for you

ON THE WEB:

NCMRR.ORG

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FOR THE LATEST UPDATES

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