NATIONAL CENTER OF

Neuromodulation for Rehabilitation

An NIH Medical Rehabilitation Research Resource Network Center at Medical University of South Carolina

Our Mission



We aim to increase rehabilitation researchers' access to neuromodulation strategies and support rigorous clinical research in an effort to translate research into evidence-based rehabilitation interventions.

Our Location

The Medical University of South Carolina is a pioneer in neuromodulation for psychiatric disorders and the NC NM4R builds on that expertise and a cutting edge multidisciplinary team with competitive scientific infrastructure that supports NM4R research



Educational Opportunities

Personalized Hands-on Training

NC NM4R offers free beginner and advanced workshops, webinars, and conferences for researchers interested in non-invasive brain stimulation and operant conditioning of brain and spinal networks integrated with rehabilitation principles.



Spend a week or more collaborating with research scientists to refine your research technique or protocol. Resources include:

- tDCS and EMG Evoked Potential Laboratory
- Neuromodulation in Pain Management Laboratory
- Biostatistical consultations
 - Grantsmanship consultations

Research Support

NM4R provides pilot grant funding for new projects that:

- Address an important question in neurological conditions that use NM4R methods
- Generate preliminary data to support competitive extramural grant applications
- And/or further develop new methods that will enhance or replace current NM4R methods

<u>View Pilot Project Grant</u> <u>Awardees Here</u>

Collaborative Opportunities

NM4R provides access to experts in neuromodulation, rehabilitation, experimental design and associated outcome measures (such as neuroimaging, neuromechanics and EEG). We also provide the opportunity for virtual residencies when remote mentoring and networking is necessary.



Upcoming Workshops

Level 1 Workshop -November 16th - 19th, 2020

The purpose of this workshop is to introduce a range of concepts including brain stimulation and operant conditioning. Researchers gain basic skills in TMS neurophysiology measurements (e.g., determine motor threshold) as well as EMG evoked potential. Researchers may apply these neuromodulation experimental designs with individualized specific aims for grant proposals.

> More Info and Workshop Agenda

Spinal Cord Plasticity in Motor Control-December 1st and 4th 2020

This symposium will focus on the role of activity-dependent spinal cord plasticity in motor control and motor learning in health and disease. The topics addressed will include: spinal cord plasticity during motor learning and in response to trauma and disease; interactions between brain and spinal cord plasticity and more. <u>Register here!</u>



Latest Conference

Transcranial Focused Ultrasound (tFUS) Workshop October 1st, 2020

Our virtual workshop, titled "What is needed before transcranial focused ultrasound can become a clinical rehabilitation technique?," featured presentations and discussion on the topics of tFUS principles, safety, combined modes of neuromodulation, and the use of tFUS to treat pain and disorders of consciousness. Scientists and physicians leading this area of research joined us online from all around the United States to present.



Recorded presentations from the conference will be up on our website soon. In the meantime check out our archive!

> <u>Videos from Previous</u> <u>Conferences</u>



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Join the NC NM4R Community

The community is the group of researchers and clinicians who are working in the field of neuromodulation for rehabilitation and who are interested in gaining immediate knowledge and training in cutting edge and next generation NM4R applications. Members of the community are eligible to attend workshops and conferences in neuromodulation, collaborate with other members of the community, and will be given access to our extensive research data base to further enhance their research and practice. To take advantage of all resources NC NM4R

provides, become a member of our community here: <u>www.musc.edu/ncnm4r/membership</u>

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> MUSC Medical University of South Carolina Changing What's Possible

The MUSC National Center of NM4R is proud to serve as home of the Medical Rehabilitation Research Resource (MR3) Network coordinating center.

Connect with us on social media or visit the official MR3 website by following the links below

