

Contact: Rachel Boon

**REQUEST TO CREATE A NEW INSTITUTE AT THE UNIVERSITY OF IOWA:
CENTER FOR NONINVASIVE BRAIN STIMULATION**

Action Requested: Consider recommending approval of the request by the University of Iowa to establish Center for Noninvasive Brain Stimulation in the Department of Psychiatry and the Iowa Neuroscience Institute.

The Council of Provosts and the Board office support this request.

Executive Summary: A University of Iowa Center for Noninvasive Brain Stimulation will provide a more cohesive organizational structure and greater visibility for the integrated missions of providing state-of-the-art clinical care, education, and research. This greater visibility will facilitate ongoing efforts to support these missions through competitive grants, patient recruitment, and philanthropic support. SUI has a combination of state-of-the-art facilities, equipment, and personnel with deep expertise in the field.

Background: The University of Iowa Center for Noninvasive Brain Stimulation will provide infrastructure for a combined clinical and translational research program and serve three related missions. 1. It will offer state-of-the-art clinical care. Currently, this includes treating major depression with transcranial magnetic stimulation and mapping motor and speech areas of the brain as part of a diagnostic pre-neurosurgical evaluation. 2. The Center will extend knowledge of noninvasive brain stimulation through biomedical research. Currently, there are ongoing research projects spanning basic mechanisms of action for transcranial magnetic stimulation through clinical trials for developing novel treatments for schizophrenia, bipolar disorder and autism. 3. It will provide educational opportunities for clinicians and researchers at all levels of training to learn the methods, science and clinical practice of noninvasive brain stimulation. This includes a rotation available for medical students and psychiatry residents, an institutional certification program for administering transcranial magnetic stimulation, and a new philanthropy-supported fellowship program that will launch in 2020.

Need for proposed institute. Achieving these three inter-related missions will be facilitated through an integrated infrastructure and organization created by forming this Center. The 'center' designation will increase the visibility locally and nationally and enhance the reputation of the program. This will help with recruiting efforts and the goal of seeking major philanthropic gifts to support the mission.

Proposed center activities. Activities that will be subsumed by the Center include the following:

- Providing clinical care (UI Noninvasive Brain Stimulation Clinical Program)
- Conducting cutting-edge biomedical research to extend knowledge about the mechanisms of noninvasive brain stimulation and leverage this information to develop novel diagnostic and therapeutic strategies.
- Education from a staff that is dedicated to a core mission of training the next generation in the use of noninvasive brain stimulation.

Relationship of proposed institute to University's Strategic Plan. The three core goals of this Center as outlined above are perfectly aligned with the broader missions of the University of Iowa, Carver College of Medicine, University of Iowa Hospitals and Clinics, the Iowa Neuroscience Institute and the Department of Psychiatry. The Center will be sponsored by the Department of Psychiatry and Iowa Neuroscience Institute, but noninvasive brain stimulation is inherently multidisciplinary, and is anticipated to include working across traditional departments with engineers, basic scientists, biostatisticians, imaging specialists and others.

Relationship of proposed institute to existing centers/institutes. The most direct impact will be on the Iowa Neuroscience Institute. The INI has identified noninvasive brain stimulation as a research area of excellence by funding a Neuromodulation Research Program of Excellence, initiated in 2017. The 'center' designation will provide further evidence of a concerted effort at the University to develop a world-class clinical and translational research program.

The University of Iowa is the only site in the state that has a combined clinical program and translational research program using noninvasive brain stimulation.

Personnel. Existing personnel that will help to maintain the Center include the following:

- Aaron Boes, MD, PhD — Director
- Nick Trapp, MD — Psychiatrist
- Chris Sanborn, BA — Lead Coordinator, TMS Clinical Program
- Tara Chiri, BA - TMS Technician
- Brandt Uitermarkt — Research Specialist, TMS Technician
- Laren Garrett — Clinical Trial Research Assistant, TMS Technician

Facilities. No additional facilities are required. The Noninvasive Brain Stimulation Clinical and Translational Research Program is currently supported by the resources and facilities in the Department of Psychiatry and the Iowa Neuroscience Institute. It is a state-of-the-art facility for translational research for noninvasive neuromodulation and includes transcranial magnetic stimulation (TMS) and transcranial current stimulation equipment. There are two locations dedicated to noninvasive neuromodulation: the University of Iowa Hospitals and Clinics General Hospital (W264) and the Pappajohn Biomedical Discovery Building (PBDB) directly adjacent to the MRI Research Facility (1.445). Two full-time employees maintain the equipment and provide technical expertise for research studies. The noninvasive neuromodulation research program is closely aligned with the Noninvasive Brain Stimulation Clinical Program, which is directed by PI Boes. The program is located in W240 General Hospital immediately adjacent to the research program and members include four psychiatrists and two full-time staff members. The program offers 10-12 TMS treatment sessions per day Monday through Friday.

Equipment. The center will use existing equipment provided by the UIHC and the Department of Psychiatry.

Cost. This center will be funded by research, clinical earnings and philanthropy support and no additional general education funds are needed. The clinical program is supported by the Department of Psychiatry and research costs, including faculty salary support, are covered by external funding.

The cost of the proposed institute at SUI will include the following:

TOTAL COSTS	SOURCE(S) OF FUNDS	TOTAL NEW COSTS
Year 1 — \$220,000	Clinical revenue \ grants	None
Year 2 — \$220,000	Clinical revenue \ grants	None
Year 3 — \$220,000	Clinical revenue \ grants	None
Year 4 — \$220,000	Clinical revenue \ grants	None
Year 5 — \$220,000	Clinical revenue \ grants	None

Evaluation plan. There are quarterly emails to update members about activities and more frequently as needed. An annual 'State of the Center' meeting for all members of the Center will be held with Peg Nopoulos and Ted Abel to discuss ongoing and planned activities.