



## Internship opportunity for engineers interested in brain-machine interfaces

The Neuromodulation Research Center at the University of Minnesota is looking for students (undergraduate, Master's, and PhD ) to join our **Research and Technology Development Internship Program**. Financial support will be provided to the students selected. The internship duration is 11 months, starting as early as August, 2018. A description of the two internship categories is below.

**Internship 1 - Development of ambulatory closed-loop deep brain stimulation (DBS) system for Parkinson's disease.** We are looking for a Master's or undergraduate student with an expertise in embedded systems, FPGAs, PCB design, communication protocols (SPI, I2C, etc), software engineering and Simulink. The student will participate in the development and validation of a DBS device that uses intracranial potentials for feedback to deliver DBS therapy in subjects with parkinsonism.

**Internship 2 - Research on neural encoding in Parkinson's disease.** We are looking for students (PhD or Master's) with an expertise in signal processing, system identification, kinematics (robotics) and feedback control systems. The students will conduct research focused on characterizing how Parkinson's disease alter the collective dynamics of neurons responsible for the control of movement. **Students do not need a background in neuroscience for this internship.**

**To apply submit your resume (two pages max.), your academic transcripts, and a research proposal (three pages max.) at <https://goo.gl/forms/GIG70TaCh1nNT0df2>. The application should be submitted no later than June 30, 2018.**

The Neuromodulation Research Center ([nmrc.umn.edu](http://nmrc.umn.edu)) brings together the University of Minnesota's experts from neurology, neurosurgery, neuroscience, radiology and engineering to advance the understanding of brain disorders and neuromodulation therapies for these disorders.

**Please contact Dr. David Escobar at [descobar@umn.edu](mailto:descobar@umn.edu) if you have questions about this internship program.**