



NCAN

National Center for Adaptive Neurotechnologies

VIRTUAL FOCUS COURSE IN JULY 2021

SCIENTIFIC & ENGINEERING PRINCIPLES OF ADAPTIVE NEUROTECHNOLOGIES

We are now accepting applications for our virtual Focus Course on the “Scientific and Engineering Principles of Adaptive Neurotechnologies.”

Adaptive Neurotechnologies

The rapidly growing field of adaptive neurotechnologies applies recent advances in neuroscience and engineering to establish real-time adaptive interactions with the nervous system that enable new scientific understanding and generate new therapeutic and diagnostic methods. Examples include brain-computer interfaces, deep brain stimulation, and operant conditioning of spinal reflexes. The realization of these technologies involves neuroscience, biomedical engineering, signal processing, mathematics, and computer science. Thus, their development and dissemination require leaders with knowledge and expertise that span all these disciplines.

The Goal of this Focus Course

This Course will provide a select group of scientists, engineers, and clinicians with the scientific and engineering knowledge needed to understand and participate in the rapidly growing field of adaptive neurotechnologies. This Course comprises lectures about and demonstrations of adaptive neurotechnologies and is organized in four modules: *Neuroscience*; *Engineering*; *Data Acquisition and Analysis*; and *Adaptive Neurotechnologies*. Each module comprises live and, in some cases, pre-recorded lectures with live discussions and relevant demonstrations presented in three sessions weekly from July 6 to July 29, 2021. Demonstration topics include: BCI2000 (our general-purpose software platform for real-time data acquisition and interactive closed-loop experiments); Evoked Potential Operant Conditioning; and BCI Applications. There will be opportunities for networking with the faculty and other students.

What will the Course Participants Gain?

- Comprehensive grasp of the basic theory and practice of adaptive neurotechnologies.
- Understanding of the scientific and clinical potential of these technologies.
- Exposure to the practical application of adaptive neurotechnologies to real-world problems.

Who should apply?

Early to mid-career scientists, engineers, or clinicians, e.g., junior faculty, postdoctoral fellows, clinical residents or fellows, advanced graduate or medical students.

Click [here](#) for more information on the course or email us at focuscourse2021@neurotechcenter.org. Click [here](#) to apply.

Look for our comprehensive three-week “Short Course in Adaptive Neurotechnologies” on site at NCAN in July, 2022.



U.S. Department
of Veterans Affairs
Stratton VA Medical Center

