

2nd Annual O'Donnell Brain Institute Symposium: Frontiers of Neuromodulation

Friday May 20, 2022

cme.utsouthwestern.edu/rp2205

Register now to attend!



PURPOSE AND CONTENT

Neuromodulation therapy adjusts nerve activity with the potential to help many types of health conditions, from psychiatric disorders to cardiovascular illness. Recent innovations in neuromodulation devices have led to breakthroughs in treating disease and improving human health. This symposium will bring together scientists currently investigating the application of brain stimulation technologies to solve a variety of clinical challenges.

The goal of this symposium is to engage clinicians and researchers from different disciplines to present current work and open discussion on solutions and challenges treating cognitive and motor symptoms. Additionally, this symposium aims to educate the UT Southwestern brain science community about current state-of-the-art approaches and to stimulate discussion that will advance new approaches to solving problems that draw on the broad expertise of our presenters.

EDUCATIONAL OBJECTIVES

Upon completion of this activity, participants should be able to:

- *Expand their knowledge of invasive and non-invasive neuromodulation mechanisms and the clinical effectiveness of therapies for affective disorders. (Sessions 1 and 2)*
- *Compare and contrast results from models of invasive and non-invasive neuromodulation therapies for memory and learning disorders (Sessions 3 and 4)*
- *Relate knowledge of basic neural genetics, neuromodulation, and neurodevelopment disorders to gene expression research projects (Session 5)*
- *Describe progress and gaps in invasive neuromodulation as a therapy to regain lost motor function (Session 6)*

TARGET AUDIENCE

This symposium is designed for and open to physicians and others involved in neuromodulation and clinical care of affective disorders, memory and learning disorders, and motor function disorders.

SPONSORED BY

UT Southwestern Peter O'Donnell Jr. Brain Institute and the UT Southwestern Office of Continuing Medical Education.

ACCREDITATION AND DESIGNATION STATEMENT

The University of Texas Southwestern Medical Center is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The University of Texas Southwestern Medical Center designates this live educational activity for a maximum of 6.75 AMA PRA Category 1 Credit™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

The University of Texas Southwestern Medical Center certifies that non-physicians will receive an attendance certificate stating that they participated in the activity that was designated for 6.75 AMA PRA Category 1 Credit™.

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TIME		TOPIC	SPEAKER
8 a.m.	8:15 a.m.	Opening Remarks	Bradley Lega, M.D.
Session 1 - Invasive Neuromodulation for Affective Disorders			
8:15 a.m.	8:45 a.m.	Closed Loop Approaches to Psychiatric DBS: From Diagnoses to Cognitive Domains	Alik Widge, M.D., Ph.D.
8:45 a.m.	9:15 a.m.	DBS for Intractable OCD	Wayne Goodman, M.D.
9:15 a.m.	9:45 a.m.	Model-based neural decoding and control systems for brain stimulation	Maryam Shanechi, Ph.D.
9:45 a.m.	10 a.m.	BREAK	
Session 2 - Non-invasive Neuromodulation for Affective Disorders			
10 a.m.	10:30 a.m.	Advancements in quantifying and modulating neural circuit dysfunction in substance use disorders	Travis Baker, Ph.D.
10:30 a.m.	11 a.m.	Using personalized functional networks to understand development, cognition, and psychopathology	Theodore Satterthwaite, M.D.
11 a.m.	11:15 a.m.	BREAK	
11:15 a.m.	12:15 p.m.	TRAINEE DATA BLITZ (NOT FOR CME)	
12:15 p.m.	1:00 p.m.	BREAK	

Agenda Continues on Next Page

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TIME

TOPIC

SPEAKER

Session 3 - Invasive Neuromodulation for Memory

1:00 p.m. 1:30 p.m.

Neural Mechanisms of Direct Electrical Stimulation to the Human Brain

Sydney Cash, M.D., Ph.D.

1:30 p.m. 2 p.m.

Lessons learned from pursuing the invasive neuromodulation for memory

Bradley Lega, M.D.

2 p.m. 2:15 p.m.

BREAK

Session 4 - Non-Invasive Neuromodulation for Memory Disorders

2:15 p.m. 2:45 p.m.

Network-targeted stimulation to test mechanisms for episodic memory

Joel Voss, Ph.D.

Session 5 - Neuromodulation and gene expression

2:45 p.m. 3:15 p.m.

Genetic and neurophysiological approaches to tackle Rett syndrome & MECP2 disorders

Huda Zoghbi, M.D.

3:15 p.m. 3:45 p.m.

Human gene networks linked with cognition: potential targets for neuromodulation

Stefano Berto, Ph.D.

3:45 p.m. 4 p.m.

BREAK

Session 6 - Non-invasive Neuromodulation for Motor Restoration

4 p.m. 4:30 p.m.

Recovery of Locomotion with Epidural Stimulation

Susan Harkema, Ph.D.

4:30 p.m. 5 p.m.

Neural & Behavioral Markers of Optimal Subthalamic Deep Brain Stimulation Programming Strategies in Parkinson's Disease

Rachel Kae Spooner, Ph.D.

5 p.m. 5:15 p.m.

Final remarks/Adjourn