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Judith Walters PhD
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Charles Wilson PhD
UT San Antonio

September 12, 2019 | 9a-5p
BSE 2.102 | UTSA Main Campus

Free & open to the public

2019 Neuroscience Symposium

Brain Oscillations in Parkinson's Disease

The motor symptoms of Parkinson's disease result from abnormal patterns of activity in surviving nondopaminergic neurons of the the basal ganglia following loss of dopaminergic cells in the substantia nigra. The most prominent component of abnormal activity is an exaggerated oscillation in the beta frequency range (10-30 Hz) in field potentials and neuronal firing patterns in humans with the disease and in animal models of parkinsonism.

Following an introduction to Parkinson's disease, deep brain stimulation and pathologic oscillations by Dr. Jerrold Vitek, our panel will present a series of lectures that address 1) the causal role for exaggerated oscillations in Parkinson's disease; 2) experimental studies of the origin of normal and maladaptive basal ganglia oscillations; and 3) existing and potential treatments aimed at disrupting oscillatory activity associated with the disease symptoms.

(in order of appearance)

Jerrold L. Vitek MD PhD
McKnight Professor & Chair
University of Minnesota

*Oscillatory activity in the basal ganglia:
Is it enough to explain Parkinson's disease?*

Robert S. Turner PhD
Professor of Neurobiology
University of Pittsburgh

Oscillations & deep brain stimulation

Judith R. Walters PhD
Senior Investigator
NINDS

*Exploring the significance of exaggerated oscillatory
local field potential activity in the Parkinsonian rat*

Marc Bevan PhD
Professor in Physiology
Northwestern University

*Maladaptive plasticity of the subthalamic nucleus in
mouse models of Parkinson's disease*

Charles J. Wilson PhD
Ewing Halsell Chair
University of Texas San Antonio

*How do oscillations engage brain networks?
Entrainment & synchrony in the basal ganglia*