



18th Annual Udall Centers Meeting

NORTH BETHESDA MARRIOTT
CONFERENCE CENTER AND HOTEL
NOVEMBER 3-4, 2016

18th Annual Udall Centers Meeting, Bethesda, MD November 3-4, 2016

On November 3-4, 2016, NINDS held the 18th Annual Meeting of the Morris K. Udall Centers of Excellence for Parkinson's Disease (PD) Research in Bethesda, Maryland. Participants included Udall Center Directors, investigators, and trainees, NIH staff and representatives from nongovernmental PD research and advocacy organizations. Dr. D. James Surmeier, Director of the Udall Center at Northwestern University, served as the meeting Chair.

The NINDS Centers of Excellence in PD program was established in 1997 in tandem with the passage of the Morris K. Udall Parkinson's Disease Research Act (P.L. 105-78). Since the first Udall Centers were awarded in 1998, this program continues to forge an innovative path in PD research. The NINDS currently funds nine Udall Centers across the United States. These Centers advance high-impact research programs, including the identification and characterization of candidate and disease-associated genes, elucidation of neurobiological mechanisms underlying PD, establishment of improved PD model systems, development of potential therapeutic approaches, and novel avenues of clinical research. The Centers continue to create and foster multidisciplinary research environments that enhance collaborative approaches. Udall Centers also serve as local and national resources for PD research through sharing of data and resources, as well as active outreach to patient and advocacy communities.

This year, the NINDS welcomed two new Udall Centers into the program, from Emory University and the University of Minnesota. The Udall Center at Emory, led by Thomas Wichmann, MD, will use a series of powerful and precise techniques (physiology, anatomical, and computational modeling analyses) to characterize thalamocortical circuitry in animal model systems. The University of Minnesota Udall Center, led by Jerrold Vitek, MD, PhD, will use imaging,

computational modeling and electrophysiological techniques to understand complementary basal ganglia circuits in both preclinical models as well as PD patients. As part of the NINDS Udall Centers program, these groups will work independently and collaboratively to explore how brain connections are altered in PD. Understanding of brain circuitry will contribute significant knowledge to understanding both disease pathogenesis as well as improve deep brain stimulation protocols and identify new therapeutic approaches for persons with PD.

Hosted by NINDS, and developed in collaboration with the Udall Center Coordinating Committee (UC³), the meeting provided an opportunity for open discussion among stakeholders regarding current and emergent opportunities in PD research. At this year's meeting, one investigator from each Udall Center presented research highlights and future directions from their respective Centers. Participants were updated on two recently established NINDS resources, the NINDS BioSEND Biorepository (Dr. Tatiana Foroud, University of Indiana) and the NINDS Human Cell and Data Repository (Dr. Michael Sheldon, Rutgers University). Trainees from each Udall Center also presented their research during a poster session on Day 1. Three poster awards were chosen, including: Dr. Xiabo Mao (Johns Hopkins University School of Medicine)' "Pathological Alpha-Synuclein Transmission Initiated by Binding Lymphocyte-Activation Gene 3"; Dr. Hong-Yuan Chu (Northwestern University), "NMDA Receptor-Dependent Downregulation of Cortico-Subthalamic Transmission Following Degeneration of Midbrain Dopamine Neurons;" Dr. Chao Peng (University of Pennsylvania), "Cellular Milieu Imparts Distinct Pathological Alpha-Synuclein Strains in Glial Cytoplasmic Inclusions and Lewy Bodies." On Day 2, Dr. James Surmeier moderated debates on three "hot topics" in PD research: the role of α -synuclein in PD pathology, Beta-oscillations as a primary pathophysiological event in PD, and means to link non-motor symptoms and PD pathology. NINDS leadership and staff also met separately with nongovernmental organizations and Udall Center Directors, to receive feedback on the meeting, discuss collaborative opportunities, and to begin planning for the 2017 meeting. NINDS will continue to support efforts in the Udall program to elucidate underlying mechanisms and PD and translating these findings into clinical practice.