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GRAND CHALLENGES IN PARKINSON’S DISEASE

THE ROLE OF ENERGY METABOLISM | VAN ANDEL RESEARCH INSTITUTE

September 27–28, 2017

www.grandchallengesinpd.org
Wednesday, September 27, 2017

7:00 a.m. Continental breakfast

WELCOME AND JAY VAN ANDEL AWARD ADDRESS
8:00 a.m. Peter Jones, Ph.D., D.Sc.—Van Andel Research Institute
Welcome and opening remarks
8:05 a.m. Patrik Brundin, M.D., Ph.D.—Van Andel Research Institute
Introduction of honoree J. William Langston, M.D.
8:10 a.m. J. William Langston, M.D.—Parkinson’s Institute and Clinical Center
Jay Van Andel Award for Outstanding Achievement in Parkinson’s Disease Research
The MPTP story: How it changed Parkinson’s disease research
9:10 a.m. Discussion
9:25 a.m. Break

DIABETES AND INFLAMMATION
SESSION CHAIR: Timothy Greenamyre, M.D., Ph.D.—Pittsburgh Institute for Neurodegenerative Diseases
9:40 a.m. Michele Tagliati, M.D.—Cedars-Sinai Medical Center
Impaired glucose tolerance in Parkinson’s disease
10:10 a.m. Judith A. Potashkin, Ph.D.—Rosalind Franklin University of Medicine and Science
Diabetes and inflammation in Parkinson’s disease
10:40 a.m. Abstract selected talk
Maria Elizabeth de Sousa, Ph.D.—Emory University
Western diet and psychological stress are risk factors for insulin resistance in the brain and periphery: The role of soluble tumor necrosis factor
10:55 a.m. Discussion

PHYSICAL EXERCISE IN PD AND ANIMAL MODELS
SESSION CHAIR: Darren Moore, Ph.D.—Van Andel Research Institute
11:10 a.m. Michael Jakowec, Ph.D.—University of Southern California
Effects of exercise in animal models of Parkinson’s disease
11:40 a.m. J. Eric Ahlskog, Ph.D., M.D.—Mayo Clinic
Vigorous exercise as a possible neuroprotective strategy in Parkinson’s disease
12:10 p.m. Discussion
12:25 p.m. Lunch

ANTI-DIABETIC AGENTS/MITOCHONDRIAL ENHANCERS
SESSION CHAIR: Patrik Brundin, M.D., Ph.D.—Van Andel Research Institute
1:30 p.m. Afternoon opening remarks
1:35 p.m. Tom Foltynie, B.Sc., MBBS, MRCP, Ph.D.—University College London
Exendin-4 treatment in Parkinson’s disease
2:05 p.m. Mark Mattson, Ph.D.—National Institute on Aging
Tapping adaptive mitochondrial stress response pathways for neuroprotection
2:35 p.m. Discussion
2:50 p.m. Break

MITOCHONDRIAL DYSFUNCTION
SESSION CHAIR: Xinnan Wang, Ph.D.—Stanford University
3:05 p.m. Timothy Greenamyre, M.D., Ph.D.—Pittsburgh Institute for Neurodegenerative Diseases
Mitochondria and LRRK2 in idiopathic PD
3:35 p.m. Flint Beal, M.D.—Weill Cornell Medical College
Mitochondrial deficits in Parkinson’s disease
4:05 p.m. Abstract selected talk
Anumantha Kanthasamy, Ph.D.—Iowa State University
Novel mitochondria-targeted drug induces pro-survival signaling and increases respiration to promote mitochondrial biogenesis against dopaminergic neurotoxicity
4:20 p.m. Discussion
4:45 p.m. Poster session
7:00 p.m. Scientific networking dinner
Please note, attendees must have signed up during registration

Thursday, September 28, 2017

7:00 a.m. Continental breakfast

DOPAMINE NEURONS/ENERGY REQUIREMENTS/CALCIUM HANDLING
SESSION CHAIR: Michele Tagliati, M.D.—Cedars-Sinai Medical Center
8:00 a.m. Paul Schumacker, Ph.D.—Feinberg School of Medicine, Northwestern University
Calcium entry and mitochondrial oxidant stress in Parkinson’s disease
8:30 a.m. Louis-Eric Trudeau, Ph.D.—Université de Montréal
The influence of bioenergetics and axonal arborization on dopamine neuron vulnerability in Parkinson’s disease
9:00 a.m. Discussion

PGC1A
SESSION CHAIR: Wilma van de Berg, Ph.D.—VU University Medical Center
9:15 a.m. Ted Dawson, M.D., Ph.D.—Johns Hopkins University
PGC-1-alpha dysregulation in Parkinson’s disease
9:45 a.m. Clemens Scherzer, M.D.—Harvard Medical School
A genome-driven view: PGC-1-alpha and more
10:15 a.m. Discussion
10:30 a.m. Break

MITOPHAGY
SESSION CHAIR: Shalini Padmanabhan, Ph.D.—The Michael J. Fox Foundation for Parkinson’s Research
10:45 a.m. Xinnan Wang, M.D., Ph.D.—Stanford University
Changes in Miro are coupled to perturbed mitophagy in Parkinson’s disease
11:15 a.m. Charleen T. Chu, M.D., Ph.D.—University of Pittsburgh Medical School
Mitochondrial mechanisms in Parkinson’s disease: Mitophagy and beyond
11:45 a.m. Discussion
12:00 p.m. Lunch
1:15 p.m. Shalini Padmanabhan, Ph.D.—The Michael J. Fox Foundation for Parkinson’s Research
Mitochondria as a target for developing PD therapeutics and biomarkers
1:30 p.m. Report from Rallying to the Challenge

MITOCHONDRIAL BIOENERGETICS/OX STRESS
SESSION CHAIR: Richard Wyse, Ph.D.—The Cure Parkinson’s Trust
2:00 p.m. Anatoly Starkov, Ph.D.—Weill Cornell Medical College
Nrf2 signaling and oxidative stress in Parkinson’s disease
2:30 p.m. Ann N. Murphy, Ph.D.—University of California, San Diego
The mitochondrial pyruvate carrier as a therapeutic target in neurodegenerative disease
3:00 p.m. Abstract selected talk
Sonia George, Ph.D.—Van Andel Research Institute
Mitochondrial pyruvate carrier regulates cellular metabolism and inflammation in experimental models of Parkinson’s disease
3:15 p.m. Discussion
3:30 p.m. Break