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GRAND CHALLENGES IN PARKINSON'S DISEASE

GENES & PATHWAYS | VAN ANDEL RESEARCH INSTITUTE

September 26-27, 2016



www.grandchallengesinpd.org

Monday, September 26, 2016

- 7:30 a.m. Continental breakfast
- WELCOME AND JAY VAN ANDEL AWARD ADDRESS**
- 8:30 a.m. Peter Jones, Ph.D., D.Sc.–Van Andel Research Institute, USA
Introduction of honoree Dr. Stanley Fahn
- 8:40 a.m. Stanley Fahn, M.D.–Columbia University, USA
Jay Van Andel Award for Outstanding Achievement in Parkinson's Disease Research
The revolutionary Rx for PD that almost got away: the levodopa story
- 9:40 a.m. Discussion
- 9:55 a.m. Break

GENE IDENTIFICATION: NOMINATING PATHWAYS AND MECHANISMS

SESSION CHAIR: Darren Moore, Ph.D.—Van Andel Research Institute

- 10:15 a.m. John Hardy, Ph.D., FMedSci, FRS–University College London, UK
Genetic risk for idiopathic PD: nominating pathways
- 10:45 a.m. Coro Paisàn-Ruiz, Ph.D.–Icahn School of Medicine at Mount Sinai, USA
Monogenic PD/Parkinsonism: new genes and pathways
- 11:15 a.m. Asa Abeliovich, M.D., Ph.D.–Columbia University, USA
Functional studies of Parkinson's disease risk factors
- 11:45 a.m. Haydeh Payami, Ph.D.–University of Alabama at Birmingham, USA
Gene-environment risk interactions in Parkinson's disease
- 12:15 p.m. Discussion
- 12:30 p.m. Lunch

ALPHA-SYNUCLEIN: BIOLOGY AND PATHOPHYSIOLOGY

SESSION CHAIR: Patrik Brundin, M.D., Ph.D.—Van Andel Research Institute

- 1:45 p.m. Abstract selected talk
Maxime W.C. Rousseaux, Ph.D.–Baylor College of Medicine, USA
TRIM28 regulates the nuclear accumulation and toxicity of both alpha-synuclein and tau
- 2:00 p.m. Subhojit Roy, M.D., Ph.D.–University of Wisconsin, USA
Synaptic function and dysfunction of alpha-synuclein
- 2:30 p.m. Chris Dobson, FRS, FMedSci–University of Cambridge, UK
The molecular basis of Parkinson's disease and its therapeutic significance
- 3:00 p.m. Break
- 3:15 p.m. Kelvin Luk, Ph.D.–Perelman School of Medicine, University of Pennsylvania, USA
Molecular and biological determinants of alpha-synuclein seeding and transmission
- 3:45 p.m. Aaron Gitler, Ph.D.–Stanford School of Medicine, USA
Toxic mechanisms of alpha-synuclein in Parkinson's disease
- 4:15 p.m. Abstract selected talk
Nolwen Rey, Ph.D.–Van Andel Research Institute, USA
Widespread transneuronal propagation of alpha-synuclein triggered in the olfactory bulb mimics prodromal Parkinson's disease
- 4:30 p.m. Discussion
- 5:00 p.m. Poster session
- 7:15 p.m. Scientific networking dinner
Please note, attendees must be registered.

Tuesday, September 27, 2016

- 7:30 a.m. Continental breakfast
- LRRK2: FUNCTION AND NEUROTOXIC MECHANISMS**
- SESSION CHAIR: Jeremy Van Raamsdonk, Ph.D.—Van Andel Research Institute**
- 8:30 a.m. Mark Cookson, Ph.D.–National Institute on Aging, National Institutes of Health, USA
Functional studies of LRRK2 activity, interactors and substrates
- 9:00 a.m. Andrew West, Ph.D.–University of Alabama at Birmingham, USA
Interplay between LRRK2 and alpha-synuclein
- 9:30 a.m. Jie Shen, Ph.D.–Harvard Medical School, USA
LRRK2 loss of function in Parkinson's disease
- 10:00 a.m. Darren Moore, Ph.D.–Van Andel Research Institute, USA
Mechanisms of LRRK2-dependent neurotoxicity in Parkinson's disease
- 10:30 a.m. Discussion
- 10:45 a.m. Break

MITOCHONDRIAL QUALITY CONTROL

SESSION CHAIR: Viviane Labrie, Ph.D.—Van Andel Research Institute

- 11:00 a.m. Wolfdieter Springer, Ph.D.–Mayo Clinic, USA
Parkin structure and activity
- 11:30 a.m. Edward (Ted) Fon, M.D., FRCP(C)–McGill University, Canada
Function of PINK1 and Parkin in mitochondrial control
- 12:00 p.m. Richard Youle, Ph.D.–National Institutes of Health, USA
Damage control: function of genes mutated in familial Parkinson's disease in mitochondrial maintenance
- 12:30 p.m. Discussion
- 12:45 p.m. Lunch
- 1:45 p.m. Report from Rallying to the Challenge
- 2:15 p.m. Brian Fiske, Ph.D.–The Michael J. Fox Foundation for Parkinson's Research, USA
Translating Parkinson's genetics into therapies for patients: a funder's perspective

VESICULAR TRAFFICKING AND TURNOVER

SESSION CHAIR: Jijan Ma, Ph.D.—Van Andel Research Institute

- 2:45 p.m. Abstract selected talk
John Sanderson, B.A.–Harvard Medical School, USA
Characterization of soluble disease-associated alpha-synuclein species isolated from human brain tissue
- 3:00 p.m. Ellen Sidransky, M.D.–National Institutes of Health, USA
The lysosome and Parkinsonism: the glucocerebrosidase story
- 3:30 p.m. Zhenyu Yue, Ph.D.–Icahn School of Medicine at Mount Sinai, USA
Synaptic vesicle trafficking in PD
- 4:00 p.m. Matthew Seaman, Ph.D.–University of Cambridge, UK
Modulation of retromer function to rescue the PD-causing mutation
- 4:30 p.m. Abstract selected talk
William P. Flavin–Loyola University Chicago, USA
Endocytic vesicle rupture is a conserved mechanism of cellular invasion by amyloid proteins
- 4:45 p.m. Discussion
- 5:00 p.m. Closing remarks