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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 Paisán-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
*Function 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: Jiyan 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