Announcing the 2014 Keystone Symposia meeting on:

Parkinson’s Disease: Genetics, Mechanisms and Therapeutics

March 2–7, 2014
Keystone Resort, Keystone, Colorado, USA

Scientific Organizers: Patrick A. Lewis, Thomas Gasser and Marcel P. van der Brug

joint with the meeting on “Alzheimer’s Disease – From Fundamental Insights to Light at the End of the Translational Tunnel”

The conference will:

• Delve into themes and mechanisms that appear to underlie Parkinson’s Disease, including protein aggregation, immune responses and mitochondrial dysfunction;
• Cover our current state of knowledge of the global genetic architecture of Parkinson’s, how this is informing cellular and molecular approaches to the etiology of the disease, and the implications of these discoveries in patient diagnosis and development of novel treatments;
• Explore the commonalities between Parkinson’s Disease and Alzheimer’s through joint sessions with the paired meeting on “Alzheimer’s Disease – From Fundamental Insights to Light at the End of the Translational Tunnel.”

For more information and to view the full program, visit www.keystonesymposia.org/14Q7
SUNDAY, MARCH 2
Arrival and Registration

MONDAY, MARCH 3
Keynote Address (Joint)
*John Q. Trojanowski*, University of Pennsylvania, USA
*Micel Goedert*, Medical Research Council, UK
Alzheimer’s Disease and Parkinson’s Disease Are Protein Misfolding Diseases

Phenotypic and Genotypic Complexity of AD and PD (Joint)
*Andrew B. Singleton*, NIA, National Institutes of Health, USA
Genetics of AD and PD

*Christian C. Raiss*, University of Twente, Netherlands
Short Talk: Morphological and Functional Heterogeneity of Lewy Body-Like Inclusions in a Cell Model System

*Tina L. Beckett*, University of Kentucky, USA
Short Talk: Cerebrovascular Pathology and Neuroinflammatory Changes in a Novel Mouse Model of Mixed Dementia

*Ryan J. Watts*, Denali Therapeutics Inc, USA
Overcoming Barriers in Alzheimer’s Drug Development

Genome-Wide Association and PD (Q7)
*Andrew B. Singleton*, NIA, National Institutes of Health, USA

Thomas Gasser, University of Tubingen, Germany
GWA Studies in PD: New Pathways and Old Targets

*Vincent Plagnol*, University College London, Genetics Institute, UK
Fine-Mapping, Gene Expression and Splicing Analysis of the Disease Associated LRRK2 Locus

*George T. Kannrakt*, Emory University School of Medicine, USA
Short Talk: The rs3129882 Single Nucleotide Polymorphism Alters MHC-II Expression and May Increase Susceptibility for Parkinson’s Disease by Modulating Immune Responses

*Haydeh Payami*, Wadsworth Center, New York State Department of Health, USA
Interaction between Genes and Environment in PD

Genetics of AD (Q8)
*Virginia M. Y. Lee*, University of Pennsylvania School of Medicine, USA

Christine Van Broeckhoven, VIB, University of Antwerp, Belgium
Genetics of Early-Onset Alzheimer Disease: What Is Missing?

Richard Mayeux, Columbia University, USA
The Search for Functional Genetic Variants in Late-Onset Alzheimer’s Disease

Philip L. De Jager, Columbia University Medical Center, USA
Short Talk: Deconstructing the Epigenomic Architecture of the Cortex in Alzheimer’s Disease

Gerard D. Schellenberg, University of Pennsylvania, USA
New AD Risk Factor Genes from GWAS

Poster Session 1

TUESDAY, MARCH 4

Biomarkers of AD and PD (Joint)
*Clifford R. Jack*, Mayo Clinic, USA
Kenneth L. Marek, Institute for Neurodegenerative Disorders, USA
Parkinson’s Progression Marker Initiative: Developing a Translational Toolbox for Parkinson’s Disease

*Kaj Blennow*, University of Gothenburg, Sweden
CSF Biomarkers for AD: Approaching the End of the Long Road to Validated and Approved Biomarkers

Anna Cartier, ICB International, Inc., USA
Short Talk: A Novel Blood-Brain Barrier Permeable PET Ligand for Parkinson’s Disease

Juliya Kalinina, Merck & Co., USA
Short Talk: Highly Sensitive and Selective Amyloid Oligomer Biomarker Assay Differentiates Alzheimer’s from Non-AD Cerebrospinal Fluid (CSF) and Tissues

Thomas J. Montine, University of Washington Medical Center, USA
Modifiable Factors Associated with Free Radical Injury in the Aging Brain

Alice S. Chen-Plotkin, University of Pennsylvania School of Medicine, USA
Unbiased Approaches to Parkinson’s Disease Biomarker Discovery

Future Opportunities and Obstacles in PD Research (Q7)
Panel: Combo Therapy for AD (Q8)

*Dennis J. Selkoe*, Harvard Medical School, USA
Ryan J. Watts, Denali Therapeutics Inc, USA
Charles F. Albright, Editas Medicine, USA
Michael K. Ahljanian, Bristol-Myers Squibb, USA
Pros and Cons of Combo Therapy from a Biopharma Drug Discovery and Development Perspective

Reisa A. Sperling, Brigham and Women’s Hospital, Harvard Medical School, USA
Pros and Cons of Combo Therapy from a Clinical Researcher and the Patient’s Perspective

For the most up-to-date details, visit www.keystonesymposia.org/14Q7 and www.keystonesymposia.org/14Q8.
Mitochondrial Biology and the Pathology of PD (Q7)
*Mark R. Cookson*, NIA, National Institutes of Health, USA
Richard J. Youle, NINDS, National Institutes of Health, USA
Role of PINK1 and Parkin on Mitochondria Quality Control in vitro and in vivo
Helene Marie Plun-Favreau, University College London Institute of Neurology, UK
Missing Pieces in the Mitophagy Puzzle
J. Wade Harper, Harvard Medical School / Biogen Idec
Short Talk: Parkin-Dependent Ubiquitin Chain Synthesis in vivo and in vitro
Alex J. Whitworth, University of Sheffield, UK
Drosophila Models of Parkinson’s Disease

AD Biomarkers (Q8)
*Thomas J. Montine*, University of Washington Medical Center, USA
Daniel M. Skovronsky, Eli Lilly and Company, USA
Amyloid Imaging
David M. Holtzman, Washington University, USA
Sleep and Circadian Rhythms: Potential Bidirectional Relationship with Alzheimer’s Disease
Clifford R. Jack, Mayo Clinic, USA
Alzheimer’s Disease Biomarkers
Wendy Wei Qiao Qiu, Boston University School of Medicine, USA
Short Talk: Amylin and its Analog: Potential Diagnostic Test and Therapeutic Drug for Alzheimer’s Disease

Transcription of Tau and Abeta (Q8)
*Michael K. Ahlijanian*, Bristol-Myers Squibb, USA
John Q. Trojanowski, University of Pennsylvania, USA
Transmission of Tau Pathology: A New Model for the Progression of Tauopathies
Virginia M. Y. Lee, University of Pennsylvania School of Medicine, USA
Transmission of alpha-Synuclein in Parkinson’s Disease
Zeshan Ahmed, Eli Lilly and Company, UK
Short Talk: A Novel in vivo Model of Tau Propagation that Is Suitable for Evaluating the Efficacy of Tau-Based Therapeutic Strategies
Karen Duff, Columbia University, USA
Propagation of Pathology and Functional Decline in AD

Poster Session 2
WEDNESDAY, MARCH 5

What Are the Toxic Species of Tau, Abeta and alpha-Synuclein (Joint)
Karen Hsiao Ashe, University of Minnesota, USA
Relevance of Quaternary Structure to the Functional Effects of beta-Amyloid Oligomers in the Brain
Dennis J. Selkoe, Harvard Medical School, USA
Protein Misfolding in AD and PD: New Mechanistic Insights
Danielle Mor, University of Pennsylvania, USA
Short Talk: The Role of Dopamine in Generating Toxic Oligomeric Conformers of Alpha-Synuclein
Vincent Raussens, Université Libre de Bruxelles, Belgium
Short Talk: Unraveling the Interaction between apoE and Amyloid beta Peptide Using Crosslinking and Mass Spectrometry
Vikram Khurana, Whitehead Institute for Biomedical Research and Massachusetts General Hospital, USA
A-Synuclein Toxicity: Phenotypic Screen from Yeast to Patient iPSc Cells

*Hui Zheng*, Baylor College of Medicine, USA
Clearance of Toxic Tau Proteins and Rescue of Neurotoxicity by TFEB

NIH Panel (Joint): New AD and PD Recommendations
Creighton Tony Phelps, NIA, National Institutes of Health, USA
Thomas J. Montine, University of Washington Medical Center, USA
Beth-Anne Sieber, NINDS, National Institutes of Health, USA

Pluripotent Stem Cells and Inherited PD (Q7)
*Patrick A. Lewis*, University of Reading, UK
Dimitri Krainc, Northwestern University, USA
Links between Lysosomal Dysfunction and Neurodegeneration
Girgitt Schuele, Parkinson’s Institute, USA
Short Talk: Mitochondrial Dysfunction in Patient-Derived LRRK2 Stem Cell Models
Jared Sterneckert, Max-Planck-Institut für Molekulare Biomedizin, Germany
Modeling Parkinson’s Disease Induced by Mutant LRRK2 Using Isogenic Human iPSCs

Poster Session 3
THURSDAY, MARCH 6

Passive Immunization and Other Novel Therapies to Treat AD and PD (Joint)
*Ryan J. Watts*, Denali Therapeutics Inc, USA
Eliezer Masliah, University of California, San Diego, USA
Passive Immunization Therapies for Parkinson’s Disease
Kurt R. Brunden, University of Pennsylvania, USA
Microtubule Stabilizing Drugs to Treat Axonal Transport Failure in AD and PD

Zdenek Berger, Pfizer, USA
Short Talk: Effects of Tool Compounds on Glucocerebrosidase Activity in Human and Mouse Brain Lysates

Eva Czirr, Alkahest, USA
Short Talk: Complement Receptor 3 Deficiency Reduces Alzheimer’s Disease Amyloid Pathology in Mice

Marc Mercken, Janssen R&D, Belgium
Translating Alzheimer’s Disease Science into Breakthrough Therapies

Michael K. Ahlijanian, Bristol-Myers Squibb, USA
Challenges Facing the Development of Disease Modifying Therapies for Alzheimer’s Disease

LRRK2 Biology and PD Therapeutics (Q7)

*Marcel P. van der Brug, Genentech, Inc., USA
A State-of-the-Protein View of LRKK2

Mark R. Cookson, NIA, National Institutes of Health, USA
Discovery of LRRK2 Small Molecule Inhibitors for the Treatment of PD

Anthony A. Estrada, Genentech, Inc., USA
Structural Studies on Roco Proteins and Implications for LRRK2

Warren D. Hirst, Pfizer Neuroscience Research Unit, USA
Short Talk: Development of Assays to Measure LRRK2 Levels and Activity in Sporadic Parkinson’s Disease Brain

Arjan Kortholt, University of Groningen, Netherlands
AD Prevention versus Intervention Trials (Q8)

Reisa A. Sperling, Brigham and Women’s Hospital, Harvard Medical School, USA
Secondary Prevention Trials in Preclinical Alzheimer’s Disease

Leonard Petrucelli, Mayo Clinic Jacksonville, USA
Short Talk: HDAC6 Inhibition as a Treatment of Tauopathies

Mark S. Forman, Merck, USA
BACE1 Inhibitors for Alzheimer’s Disease

*John Q. Trojanowski, University of Pennsylvania, USA
Concluding Remarks

FRIDAY, MARCH 7

Departure