



Conference Program

April 19-20, 2013



Mechanisms of Disease Development: New Challenges for Translational Research

APRIL 19-20, 2013

Organizing Committee: Katia Karalis
Kostas Vekrellis
Dimitris Beis

Location: Biomedical Research Foundation of the Academy of Athens (BRFAA)

Program

Friday, April 19

08.30-08.40 Welcome Address
Gregory D. Skalkeas, Professor-Academician, BRFAA President

08.40-11.00 **Degeneration and Disease: Lessons from the CNS**
Chair: Efthimiopoulos S., Georgopoulos S.

Francisco Pan-Montojo, Institute of Anatomy, Medical Faculty Carl Gustav Carus, Dresden
University of Technology, Dresden, Germany
*Implications of the enteric spreading hypothesis for the future treatment strategies in
Parkinson's disease*

Remy Sadoul, Grenoble Institut des Neurosciences, France
Emerging role of neuronal exosomes in the central nervous system

Jia-Yi Li, Neural Plasticity and Repair Unit, Department of Experimental Medical Science,
University of Lund, Sweden
Beyond alpha-synuclein transfer: Pathology propagation in Parkinson's disease

Kelvin C. Luk, Department of Pathology and Laboratory Medicine, Perelman School of
Medicine, University of Pennsylvania
*Modeling alpha-synuclein misfolding and propagation in disease: lessons from inciting protein
misbehavior*

11.00-11.30 *Coffee break*

11.30-13:00 **(Continued) Degeneration and Disease: Lessons from the CNS**
Chair: Efthimiopoulos S., Georgopoulos S.

Adriano Aguzzi, Institute of Neuropathology, University Hospital of Zurich, Switzerland
Functional and structural biology of prions

Round table: Are neurodegenerative diseases transmissible?
Discussion Panel: **Aguzzi A., Sadoul R., Sklaviadis T. Vekrellis K.**

13.00-13.50 *Lunch*

13.50-16.50 **Novel Approaches to Monitor Disease Progression**

Chairs: Stefanis L., Kapaki E.

John Cirrito, Department of Neurology, Washington University School of Medicine, St. Louis, USA

Anti-depressants make plaques unhappy: Synaptic signaling pathways that regulate amyloid-beta metabolism in mice and humans

Brit Mollenhauer, Paracelsus-Elena Klinik and Georg August University Gottingen, Germany
Quantification of alpha-synuclein in biological fluids as biomarker for Parkinson's disease

Omar El-Agnaf, Department of Biochemistry, College of Medicine and Health Sciences, United Arab Emirates University, UAE

CSF alpha-synuclein in neurodegenerative disorders: an overview

Lydia Alvarez –Ervti, Clinical Neuroscience, Faculty of Brain Sciences, Institute of Neurology, UCL, UK

Parkinson's disease gene therapy by exosomes

Marcus Kruger, Biomolecular Mass Spectrometry, Max Planck Institute for Heart and Lung Research, Germany

Global protein turnover analysis in living animals using stable isotope labeling

16.50-17.20 *Coffee break*

17.20-19.40 **In silico modeling and model organisms**

Chairs: Charalampopoulos J., Beis D., Tavernarakis N.

Andreas Deutsch, Department of Innovative Methods of the Computing Center for Information Services and High Performance Computing, Dresden University of Technology, Dresden, Germany

Mathematical analysis of cancer invasion

Eleftheria Pissadaki, MRC, Anatomical Neuropharmacology Unit, University of Oxford, UK
Action potential propagation in the axons of dopamine neurons; clues to susceptibility in Parkinson's disease

Elizabeth Patton, Medical and Developmental Genetics, MRC, University of Edinburgh, UK
Chemical and Genetic Approaches to Melanoma in Zebrafish

Antoine Depaulis, Grenoble Institut des Neurosciences, Centre de Recherche INSERM U836, Université Joseph Fourier, France

In search of novel therapeutic targets for Mesial Temporal Lobe Epilepsy (MTLE) using a global transcriptomic analysis

Saturday 20 April 2013

09.00-11.20 **Mechanisms of Disease and Therapies**

Chairs: Margioris A., Kontoyiannis D.

Martin Ingelsson, Department of Public Health and Caring Sciences, Geriatrics; Molecular Geriatrics / Rudbeck laboratory, Uppsala University, Sweden
Immuno-based therapies for Alzheimer's disease and Parkinson's disease

Triantafyllos Chavakis, Division for Vascular Inflammation, Diabetes and Kidney, Department of Internal Medicine III, University Hospital Carl Gustav Carus, Dresden University of Technology, Germany
Leukocyte recruitment in inflammatory disease

Patrick Griffin, Department of Molecular Therapeutics, The Scripps, Research Institute, Florida, and Translational Research Institute, Kellogg School of Science and Technology, USA
Mechanism of Action of Novel Insulin Sensitizers

Roy G Smith, Department of Metabolism and Aging, The Scripps, Research Institute, Florida, USA
Disorders of Dopamine Transmission: Ghrelin Receptor (GHSR1a) Antagonists as Allosteric Modulators

11.20-11.50 *Coffee break*

11.50-13.15 **Mechanisms of disease and Therapies**

Chairs: Margioris A., Kontoyiannis D.

Jonathan Seckl, Molecular Medicine, Endocrinology Unit, Centre for Cardiovascular Science, University of Edinburgh, UK
Intracellular glucocorticoid metabolism: a tale in translational medicine

Round table: STRESS and METABOLISM at the center of disease pathogenesis
Discussion Panel: Griffin P., Smith R., Chrousos G., Karalis K

13.15-14.05 *Lunch*

14.05-16.35 **Stem cells and other approaches in treating disease**

Chair: Thanos D.

Lee Rubin, Harvard University Department of Stem Cell and Regenerative Biology, Harvard Stem Cell Institute, USA
Identifying New Therapeutics for Motor Neuron Disease

Bruno Péault, BHF Center for Vascular Science, University of Edinburgh, UK and Department of Orthopaedic Surgery, UCLA School of Medicine, USA
Understanding the Natural History of Mesenchymal Stem Cells to Improve their Medical Utilization

Afsaneh Gaillard, Cellular Therapies in Brain Diseases group, Experimental and Clinical Neurosciences Laboratory, University of Poitiers, INSERM U1084, Poitiers, France
Rewiring the brain with cell transplantation

Matsas Rebecca, Cellular and Molecular Neurobiology, Institute Pasteur, Greece
Stem cells for modeling and treating CNS disease and neurotrauma

16.35-17.05 *Coffee break*

17.05-20.10 **Stem cells and other approaches in treating disease**
Chairs: Thomaidou D., Politis P.

Nikos Mazarakis, Gene therapy, Department of Medicine, Imperial College, UK
Translational gene therapy approaches for neurodegenerative diseases using Lentiviral vectors

Tilo Kunath, Centre for Regenerative Medicine, University of Edinburgh
Modelling Parkinson's disease and dementia with iPS cells and transgenic human ES cells

Evangelos Kiskinis, Faculty of Arts & Sciences, Stem Cell and Regenerative Biology, Harvard University, USA
Motor neurons generated from ALS patient-specific iPS cells recapitulate key aspects of the disease

Richard Wade Martins, Department Of Physiology, Anatomy and Genetics, University of Oxford, UK
Common mechanisms underlying Parkinson's disease revealed by analysis of iPS-derived patient dopamine neurons

Round table: How close are we to use stem cells for treating disease?
Discussion Panel: Rubin L., Péault B., Mazarakis N., Thanos D.