Molecular Neurodegeneration

Conference Program

Day One: Tuesday 10th September 2013

10:00-13:00 Arrival and registration

13:00 Welcome remarks by the organizers
Guojun Bu, Organizer, Co-Editor-in-Chief, Molecular Neurodegeneration
Frederic Checler, Local Organizer

13:10-15:20 Session 1: Genetics of neurodegeneration, Chairperson: Rudolph Tanzi

Decoding Alzheimer’s in the age of genome-wide analyses
Rudolph Tanzi, Massachusetts General Hospital & Harvard Medical School, Boston, USA

The structural biology of the human presenilin complex
Peter St. George-Hyslop, University of Cambridge, UK & University of Toronto, Canada

Functional genetics – An approach to mechanisms in Alzheimer’s disease
Mikko Hiltunen, University of Eastern Finland, Kuopio, Finland

Role of APP in neuronal function
Hui Zheng, Baylor College of Medicine, Houston, USA

15:20-15:50 Coffee break

15:50-18:00 Session 2: β-Secretase, Chairperson: Christian Haas

The biological function of β-secretase
Christian Haass, Ludwig Maximilians University Munich & German Center for Neurodegenerative Diseases (DZNE), Germany

Proteomics in neurons and animals: Substrates and therapeutic potential of α- and β-secretase
Stefan Lichtenhaller, German Center for Neurodegenerative Diseases (DZNE) & Technische Universitaet Muenchen, Germany

BACE1, the Alzheimer’s β-secretase enzyme, in health and disease
Robert Vassar, Northwestern University, Chicago, USA

Regulation of dynamic BACE1 trafficking in neurons
Gopal Thinakaran, University of Chicago, USA

18:00–20:00 Poster Session 1 & Welcome Reception
Day Two: Wednesday 11th September 2013

8:30-10:10 Session 3: γ-Secretase, Chairperson: Sangram S Sisodia

Presenilin function in health and disease  
**Sangram S Sisodia**, The University of Chicago, USA

Endogenous and exogenous regulation of γ-secretase  
**Yueming Li**, Memorial Sloan-Kettering Cancer Center, New York, USA

Function and dysfunction of presenilin1 in Alzheimer’s disease  
**Jie Shen**, Harvard Medical School, Boston, USA

10:10-10:40 Coffee break

10:40-12:50 Session 4: Chair presentation and short talks 1, Chairperson: John Hardy

Genetic analysis of neurodegeneration... the end game  
**John Hardy**, UCL Institute of Neurology, London, UK

Selected talk - Regulation of mitochondrial function by PINK1, Parkin and DJ-1  
**Emilie Giaime**, Harvard Medical School, Boston, USA

Selected talk - Expanded G4C2 repeats linked to C9ORF72 ALS and FTD form length-dependent RNA foci, sequester RNA binding proteins and are neurotoxic  
**Christopher E Shaw**, King’s College, London, UK

Selected talk - In situ studies of protein aggregation kinetics with multiparametric and superresolution imaging  
**Gabriele Kaminski Schierle**, University of Cambridge, Cambridge, UK

Selected talk - Designing nanoparticles for delivery of neurotrophic proteins  
**Angelina Angelova**, Institut Galien Paris-Sud, France

Selected talk - Novel non-carbohydrate O-GlcNAcase inhibitors with CNS drug properties as potential treatment for Alzheimer’s disease and tauopathies  
**Dirk Beher**, Asceneuron SA, Lausanne, Switzerland

Selected talk - Super-resolution fluorescence imaging of intracellular mutant huntingtin protein reveals a population of fibrillar aggregates co-existing with compact perinuclear inclusion bodies  
**Steffen J Sahl**, Stanford University, California, USA

12:50-14:00 Lunch

14:00-15:40 Session 5: Novel pathological insights, Chairperson: Don W Cleveland

From Charcot to today: engineering therapies for ALS, FTD and beyond  
**Don W Cleveland**, Ludwig Institute & University of California, San Diego, USA

Vascular hypothesis of Alzheimer’s disease: role of apoE and apoE receptors  
**Guojun Bu**, Mayo Clinic, Jacksonville, Florida, USA
Prion-like aspects of cerebral amyloidosis

Mathias Jucker, University of Tübingen & German Center for Neurodegenerative Diseases (DZNE), Germany

15:40-16:10 Coffee break

16:10-17:50 Session 6: Novel mechanistic insights, Chairperson: Bart De Strooper

Micro-RNA changes in sporadic Alzheimer’s disease

Bart De Strooper, VIB Center for the Biology of Disease & KU Leuven, Belgium

A novel mechanism underlying pathogenesis of Down syndrome

Huaxi Xu, Sanford-Burnham Medical Research Institute, La Jolla, California, USA

The transcription factor XBP-1 in neurodegenerative diseases

Frédéric Checler, Université de Nice-Sophia-Antipolis, France

17:50-19:40 Poster Session 2

20:00-22:00 Conference banquet

Day Three: Thursday 12th September 2013

8:30-10:40 Session 7: Toxic mechanism of neurodegeneration, Chairperson: Virginia M Lee

Transmission of α-synuclein in Parkinson’s disease

Virginia M Lee, University of Pennsylvania, Philadelphia, USA

Mechanisms of Aβ induced synaptic toxicity

Edward Koo, University of California, San Diego, USA

Tau protein-from native unfolding to pathological folding

Eckhard Mandelkow, German Center for Neurodegenerative Diseases (DZNE), Bonn, Germany

Tau toxicity and rescue in animal models of tau pathology

Eva Mandelkow, German Center for Neurodegenerative Diseases (DZNE), Bonn, Germany

10:40-11:10 Coffee break

11:10-13:00 Session 8: Short talks 2

Selected talk - A novel link between clusterin, tau and neurodegeneration in Alzheimer’s disease

Celina Zerbinatti, Merck Sharp & Dohme Inc., West Point, Pennsylvania, USA

Selected talk - Genetic modulation of soluble Aβ rescues cognitive and synaptic impairment in a mouse model of AD

Joanna Jankowsky, Baylor College of Medicine, Houston, Texas, USA
Selected talk - Plasma signaling proteome profiling and integrative systems analysis for the discovery of pathological pathways in Alzheimer’s disease
Philipp A Jaeger, Stanford University School of Medicine, USA & Free University Berlin, Germany

Selected talk - Excitotoxicity increases the release of 24S-hydroxycholesterol via CYP46A1 activation
Alejandro Sodero, Université Catholique de Louvain, Brussels, Belgium

Selected talk - Identifying dominant modifiers of mutant FUS toxicity in vivo
Udai Pandey, Louisiana State University Health Sciences Center, New Orleans, USA

Selected talk - N-Terminal truncated amyloid β-peptide in Alzheimer’s disease
Rong Wang, Icahn School of Medicine at Mount Sinai, New York, USA

Sponsored Talk - Streamlining your workflow: how to get more out of your research
Christine Buske, PhD, Papers Marketing Manager, Springer Science+Business Media

13:00-14:10 Lunch

14:10-15:50 Session 9: Therapy, Chairperson: David M Holtzman
Potential role of extracellular tau in development and spread of tauopathy: effects of anti-tau antibodies
David M Holtzman, Washington University, St. Louis, USA

Harnessing endogenous pathways and metabolites to treat or prevent neurodegenerative disease
Todd E Golde, University of Florida, Gainesville, USA

Tau focused therapy and tau transmission: Implications for Alzheimer’s disease and related tauopathies
John Q Trojanowski, University of Pennsylvania, Philadelphia, USA

15:50 Closing remarks