Virtual Mini-Conference at the FENS Forum

Organized by the European Society for Neurochemistry

Saturday, 11th of July 2020, 09:00-12:30

MOLECULAR MECHANISMS OF COGNITIVE IMPAIRMENT AND INTELLECTUAL DISABILITY

Conference organizers

Co-Chairs:
Prof Ilana Gozes (Israel), igozes@tauex.tau.ac.il, ESN Secretary
Blumrich E-M (UK) – ESN Council Member

Steering Committee:
Nalivaeva NN (UK/Russ) – ESN President; Hirrlinger J (Germany) - ESN Treasurer;
Rinnen, A. (Estonia) - Past President ESN; Anthony J. Turner (UK) - Abstract Committee

Short description of the Topic:

Cognitive impairment and intellectual disability affect a large population of children suffering from neurodevelopmental diseases as well as the elderly population succumbing to age-associated cognitive impairments. Understanding the molecular mechanisms of these disorders will aid in better diagnosis and improved treatments. The Mini-Conference will feature some leading genes causing autism/intellectual disability syndromes, like ADNP and CHD8, as well as electrophysiology and molecular mechanisms of intellectual disability. The role of environmental factors as well as basic mechanisms of synaptic transmission and neuro-glial interactions will also be elucidated. Finally, innovative drug development will be discussed toward better cognitive functioning both in children and elderly. A collaborative effort between the European Society for Neurochemistry (ESN) and the UK based Simon Initiative for the developing brain will underpin this event.
PROGRAMME:

Development and Intellectual disabilities

1. **Gozes I** *(Tel Aviv University, Israel)*  
   ADNP autism and mild cognitive impairment (9:00-9:20)

2. **McKinney RA** *(McGill University, Montreal, Canada)*  
   Insight from Christianson syndrome on how deficits of endosomal pH impair cognition (9:40-10:00)

3. **Nalivaeva NN** *(Institute of Evolutionary Physiology and Biochemistry, St Petersburg, Russia)*  
   Role of prenatal stress in development of cognitive disorders and search for therapy (9:40-10:00)

   **Key mechanisms and drug development**

4. **Hirrlinger J** *(Carl-Ludwig-Institute, Leipzig, Max-Planck-Institut Göttingen, Germany)*  
   Neuronal cell energy metabolism – the glial aspect (10:00-10:20)

5. **Michetti F** *(Catholic University, Rome, Italy)*  
   The S100B protein as a biomarker and effector in neural disorders: a potential novel therapeutic target (10:20-10:40)

6. **Mothet J-P** *(CNRS, Marseille, France)*  
   Emerging roles of D-amino acids in the healthy and diseased brain (10:40-11:00)

   **Simon Initiative for the developing brain**

7. Young Initiative for the developing brain *(https://www.sidb.org.uk/)*  
   Young investigator lectures (electrophysiology and molecular mechanisms of intellectual disability)

   **Booker SA** - Overcompensation of cellular excitability in the Fmr1-/y mouse (11:00-11:20)

11:40-12:30 – Open Discussion highlighting E-posters:

Kate Baker, Cambridge, UK
Gene functional networks influence autism spectrum characteristics in young people with intellectual disability

Chiara Parodi, Milan, Italy
Paving the way for future therapeutic strategies in Cornelia de Lange Syndrome modulating defective Wnt pathway

Valentina Gigliucci, Milan, Italy
Converging IGF-1 and oxytocin interactions in a mouse model of Rett syndrome

Anastasiya Shcherbitskaia, Saint Petersburg, Russia
Converging IGF-1 and oxytocin interactions in a mouse model of Rett syndrome

Laila Blanc Árabe, Belo Horizonte, Brazil
Effects of maternal separation on microglia profile and anxiety-like behavior of male and female mice

Saara Ahmad Muddasir Khan, Karachi, Pakistan
The efficacy of herbal interventions in the pathogenesis of diabetes and neuropsychological deficits on Streptozotocin-induced diabetic rats.

Adva Hadar, Rehovot and Tel Aviv, Israel
Genomic biomarkers for Alzheimer disease

Ceren Emre, Stockholm, Sweden
Alterations in free fatty acids and phospholipids in single APP knock-in mouse model of Alzheimer’s disease

Catherine Li, Sydney, Australia
Understanding the changes in chemotherapy-induced cognitive impairment

Ekateirna Pershina, Pushchino, Russia
Expression of TGF-β1 and its receptors in rat brain after trimethyltin intoxication

Alexander Trofimov, Saint Petersburg, Russia
Prolonged treatment with medium chain triglycerides (C8, C10) induces positive effect on cognitive abilities of intact rats