Virtual Mini-Conference at the FENS Forum, July 2020

Organized by the European Society for Neurochemistry (ESN)

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

Molecular mechanisms of cognitive impairment and intellectual disability

Conference organizers (Co-Chairs):

Prof Illana 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; Rinken, A. (Estonia) - Past President ESN; Anthony J. Turner - 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 (9:20-9:40)

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

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

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

8. **Ribeiro Dos Louros S** - Perturbed Proteostasis in ASD (11:20-11:40).

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

Baker Kate, Parodi Chiara, Gigliucci Valentina, Shcherbitskaia Anastasiya, Laila Blanc Árabe, Saara Ahmad Muddasir Khan, Hadar Adva, Emre Ceren, Schultzberg Marianne. Li Catherine, Pershina Ekateirna, Trofimov Alexander.