Time is stated in local Swedish time – time zone UTC/GMT +2 hours / CEST

- Please see: www.timeanddate.com/time/zone/sweden/stockholm

Thursday 23 September

8:45 Welcome and opening remarks: Organizing Committee (Anita Aperia, Eli Gunnarson)

Interactions between ion transporters and the plasma membrane

9:00-9:30 **Gunnar von Heijne**, Stockholm University, Sweden:
Biogenesis of integral membrane proteins

9:30-10:00 **Sara Liin**, Linköping University, Sweden:
Natural and synthetic lipids as activators of voltage-gated potassium channels

10:00-10:15 Oral presentation: **Elisa De Grandis**
Alternating Hemiplegia of Childhood: genotype-phenotype correlations in a cohort of 39 Italian patients

10:15-10:45 **Steve Karlish**, Weizman institute, Israel:
Specific Na,K-ATPase-lipid interactions. A role in neurological disease?

Break 10:45-11:00

11:00-11:30 **Erdinc Sezgin**, Karolinska Institutet, Sweden:
Structure and function relationship in plasma membrane

11:30-12:00 **Maria Dahlin**, Karolinska Institutet, Sweden:
The ketogenic diet – clinical aspects and mechanisms of action

12:00-12:30 General discussion

Lunch break 12:30-13:15

Pain

Moderators: **Eli Gunnarson** and **Hendrik Rosewich**

13:15-14:00 **Håkan Olausson**, Linköping university, Sweden:
A newly discovered system for ultrafast pain signalling

14:00-14:30 **Philipp Mittermaier**, Karolinska University Hospital, Sweden:
Pediatric aspects of pain and pain treatment

14:30-15:15 **Cecilia Lidbeck** and **Kickie Löwing**, Karolinska Institutet/Karolinska University Hospital, Sweden:
Exploring motor function and everyday activity in a child with ATP1A3

Break 15:15-15:30

Moderator: **Hjalmar Brismar**

15:30-15:45 Oral presentation: **Michael Habeck**:
Cryo-EM structures of human Na,K-ATPase α1 and α3 isoforms

15:45-16:00 Oral presentation: **Sofia Ygberg**:
Molecular pathology of ATP1A mutations

16:00-16:30 **Kathleen Sweadner**, Harvard university, USA:
The impact of cellular responses on the spectrum of ATP1A3 disease

Friday 24 September

Moderators: **Eli Gunnarson** and **Anita Aperia**

9:00-10:00 **Keynote lecture**: **Majken Nedergaard**, Copenhagen University, Denmark:
The Glymphatic System

10:00-10:15 Oral presentation: **Maria Papadopoulou**
Sleep disorders in children with Alternating Hemiplegia of Childhood: preliminary results of the HEPNOS study

ATP1A3 in motor neurons, role for motor function

Moderators: **Anita Aperia** and **Eli Gunnarson**

10:15-10:45 **Ihtsham Ul Haq**, University of Miami, USA:
Rapid Onset Dystonia Parkinsonism in ATP1A3 disease: one point in an expanding spectrum

10:45-11:15 **Gareth Miles**, St Andrews University, UK:
ATP1A3 expression within the spinal cord regulates movements and may contribute to motor disorders

Break 11:15-11:30

11:30-11:45 Oral presentation: **Evgeny Akkuratov**

Mechanisms by which the T613M mutation causes mobility and gait disturbances in Rapid-Onset Dystonia-Parkinsonism

11:45-12:00 Oral presentation: **Frankie Sorell**

Effects of the Rapid-Onset Dystonia-Parkinsonism gene mutation T613M on spinal motor networks in mice

12:00-12:30 **Eva Weidenhielm Broström**, Karolinska Institutet/Karolinska University Hospital, Sweden:

Gait and motion analysis in pediatric disorders causing motor dysfunction, – how, what and why?

Lunch break 12:30-13:15

Molecular manifestation and genetics

Moderators: **Anita Aperia** and **Eli Gunnarson**

13:15-13:45 **Hendrik Rosewich**, Göttingen University, Germany:

Core Phenotype of the ATP1A3 Related Disorders

13:45-14:15 **Anna Lindstrand**, Karolinska Institutet, Sweden:

Reverse phenotyping after whole genome sequencing allows for high diagnostic rates across a broad spectrum of rare diseases

14:15-14:30 Oral presentation: **Monica Dahlstrup Sietam**:

Spontaneous development of motor deficits in a mouse model carrying the CAPOS mutation

Break 14:30-14:45

Break 14:30-14:45

14:45-15:30 **Christopher A. Walsh**, Harvard Medical School, USA:
Early role for a ATP1A3 in brain development

15:30-16:00 **Mohamad Mikati**, Duke University, USA:
Gene Therapy of Alternating Hemiplegia of Childhood

16:00-16:30 General discussion and closing remarks (Anita Aperia and Eli Gunnarson)

The symposium is conducted with the support of

jerringfonden

Nordic Welfare Centre

SciLifeLab

STINT
Stiftelsen för internationalisering av högre utbildning och forskning
The Swedish Foundation for International Cooperation in Research and Higher Education