

CytoTransport

Mechanisms and Modulation of Cellular Transport Processes

27th September 2024

9 am – 5 pm

Lecture Hall 7

Hochschule Bonn-Rhein-Sieg

Campus Sankt Augustin

Scientific Sessions

Cellular Transport Processes

Bio-inspired Nanomaterials

In silico Modelling & Methods Development

Keynote Speaker

Stine H. F. Pedersen (University of Copenhagen, Denmark)

Robert Woods (University of Georgia, USA)

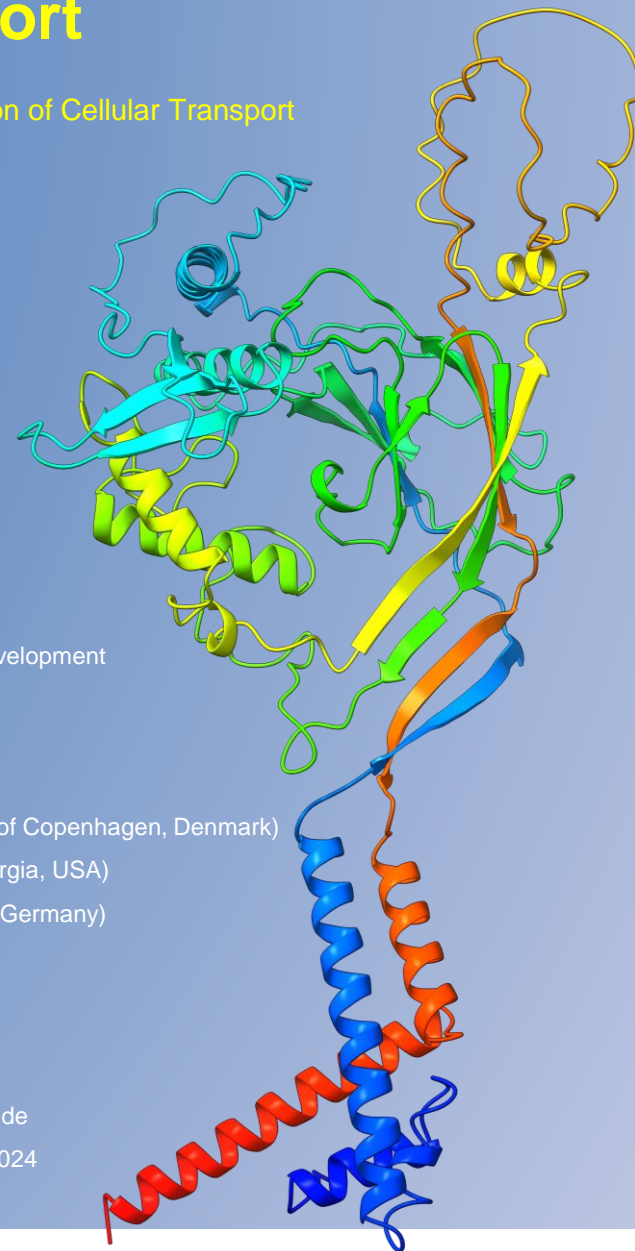
Ralf Hausmann (RWTH Aachen, Germany)

Registration

Please register by 20.09.2024

via E-mail: avinash.gupta@h-brs.de

Subject: CytoTransport Retreat 2024



CytoTransport

Mechanisms and Modulation of Cellular Transport Processes

09:00 – 09:10 **Welcome and Opening of the Retreat**
Prof. Dr. Mike Althaus

Session 1
Cellular Transport Processes – Ion Channels
Chairs: Julia Weder & Dr. Hebah Fatafta

09:10 – 09:25 Karen Luján López
ENaC Gene Variants: Functional Characterisation and Relation to Salt-sensitive Hypertension

09:25 – 09:40 Rene Lawong
Isoform-Specific Control of Guinea Pig ENaC Activity by Proteases

09:40 – 09:55 Sarah Shoushrah
Molecular Physiology of Epithelial Sodium Channel (ENaC) Isoforms in Non-Epithelial Cells

09:55 – 10:15 Dr. Oliver Rauh
Biophysical Characterization of Conduction and Gating in Ion Channels

10:15 – 10:30 Kevser Buse Karadeniz
Intracellular Mechanisms Linked to Transport Function

10:30 – 11:00 *Break: Tea and Refreshment*

11:00 – 11:45
Keynote Lecture 1
Chair: Karen Luján López

Prof. Dr. Stine H. F. Pedersen (University of Copenhagen)
Acid-base Transporters in Cancer: MCTs and Beyond

Session 2
Cellular Transport Processes – Transporters
Chairs: Sarah Shoushrah & Axel Kretschmer

11:45 – 12:00 Mariana Da Silva
Ketone Body Transport and Metabolism

12:00 – 12:15 Yasemin Ayelin Kempff
Structure and Function of Organic Cation Transporters - Brain Localization and Drug Interactions

12:15 – 13:30 *Break: Lunch (Mensa Campus Sankt Augustin)*

13:30 – 14:15

Keynote Lecture 2
Chair: Dr. Katrin Richter

Prof. Dr. Ralf Hausmann (RWTH Aachen)
Biophysics and Pharmacology of NaV1.5 and NaV1.7 Sodium Channel Variants Associated with Cardiac Arrhythmias and Pain

Session 3

Bio-inspired Nanomaterials
Chairs: Dr. Mohammed Khaled & Mona Mobasher

14:15 – 14:30 Ali Meshal
Biopolymer-Derived Hydrogels for Dye Encapsulation and Release: A Preliminary Study on Developing Vehicles for Modulator Encapsulation

14:30 – 14:45 Axel Kretschmer
From Theory to Practice: Initial Analysis of Copper-coated Artificial Membranes Using Various Coating Techniques

14:45 – 15:15 *Break: Tea and Refreshment*

15:15 – 16:00

Keynote Lecture 3
Chair: Rene Lawong

Prof. Dr. Robert Woods (University of Georgia)
Recent Advances in Modeling Complex Polysaccharides and Glycoproteins

Session 4

In silico Modelling & Methods Development
Chairs: Ali Meshal & Lil Klaas

16:00 – 16:15 Mona Mobasher
Molecular Modeling of the Nicotinic Acetylcholine Receptor

16:15 – 16:35 Dr. Mohammed Khaled
Machine Learning for Conformation Generation

16:35 – 16:55 Dr. Hebah Fatafta
Molecular Modeling approaches: From Membrane Protein to force Field Optimization

16:55 – 17:00 **Closing Remarks**
Prof. Dr. Mike Althaus

17:00 – 17:10

Presentation of Early Career Best Presentation Award
Prof. Dr. Remi Maier-Rigaud (Vice-President for Research and Young Academics)

17:15 **Group Photography & Dinner** (*Campus Sankt Augustin*)