

11th BioMedical Transporters Conference, Swiss Museum of Transport, Lucerne, Switzerland
Membrane transporters and channels: From basic research to drug development and clinical application

Sunday, August 4, 2019

4:00 – 5:45 pm	Registration
5:00 – 5:30 pm	Welcome drink
5:45 – 7:30 pm	Session 1: Conference Opening, SLC Atlas and Keynote Lecture Chair: Bruno Stieger (University of Zürich, Switzerland)
5:45 – 6:10	Matthias A. Hediger (Department of Nephrology and Hypertension, University of Bern, Switzerland) <i>Opening remarks</i>
6:10 – 6:30	Gergely Gyimesi (Department for BioMedical Research, University of Bern, Switzerland) <i>The extended SLC Atlas: Towards a unified view</i>
6:30 – 7:30	Keynote lecture: Sabine Hadida (Medicinal Chemistry, Vertex Pharmaceuticals, San Diego, USA) <i>Discovery of CFTR modulators for the treatment of cystic fibrosis</i>
7:30 – 9:00 pm	Cocktail reception dinner

Monday, August 5, 2019

8:00 – 9:55 am	Session 2: News in Transporter Drug Discovery, ADMET and DDI Chair: Kathleen M Hillgren (Eli Lilly and Company, Indianapolis, Indiana, USA)
8:05 – 8:35	Mladen Tzvetkov (Institute of Pharmacology, University of Greifswald, Germany) <i>OCT1: The new star among the clinically relevant drug transporters</i>
8:35 – 9:05	Bridget Morse (Eli Lilly and Company, Indianapolis, Indiana, USA) <i>Species differences and translational tools for assessing OCT1-mediated hepatic clearance</i>
9:05 – 9:35	Bo Feng (Vertex Pharmaceuticals, Boston, MA, USA) <i>Using in vitro transporter studies and in vivo NeuroPK to predict human brain penetration of P-gp and BCRP substrates</i>
9:35 – 9:55	Abstract selected #91: Elena Puris (School of Pharmacy, University of Eastern Finland, Finland) <i>L-type amino acid transporter 1 utilizing prodrugs: promising approach to targeted brain delivery of CNS drugs</i>
9:55 – 10:25 am	Coffee break
10:25 – 12:40 pm	Session 3: New Methods to Study Solute Carriers Chair: Giulio Superti-Furga (CeMM - Research Center for Molecular Medicine, Vienna, Austria)
10:30 – 11:00	Claire Steppan (Pfizer USA) <i>ReSolute: Empowering SLCs and drug discovery</i>
11:00 – 11:30	Naoki Yamanaka (UC Riverside, USA) <i>A membrane transporter is required for steroid hormone uptake in Drosophila</i>
11:30 – 12:00	Nora Kory (Whitehead Molecular Institute, Cambridge MA, Boston, USA) <i>Mitochondrial transporters and cell metabolism</i>
12:00 – 12:20	Abstract selected #81: Leonhard Heinz (CeMM, Vienna, Austria) <i>A critical role for the interferon-induced protein CXorf21 in SLC15A4-mediated regulation of endosomal TLR function</i>
12:20 – 12:40	Andre Bazzone (Nanion Technologies, Munich, Germany) <i>SURFE²R technology meets SGLT1: First insights</i>
12:45 – 1:30 pm	Lunch
1:30 – 3:00 pm	Poster Session 1: Presenting Posters #1-52 Chair: Indu Ambudkar (NIH/NIDCR, Bethesda, MD, USA)
3:00 – 3:30 pm	Coffee break

3:30 – 5:30 pm	Session 4: NCCR TransCure - Chemistry: New Chemistry Strategies to Target Transporters and Channels Chair: Jean-Louis Reymond (NCCR TransCure, University of Bern, Switzerland)
3:35 – 4:05	Joel Barrish (Jnana Therapeutics, Vertex Hub Lab, Boston, MA, USA) <i>Building an SLC drug discovery platform: Opening the gates to a pipeline of new transporter drugs</i>
4:05 – 4:25	Abstract selected #66: Elias Ndaru (Binghamton University, USA) <i>Synthesis and Characterization of Novel alanine serine cysteine transporter 2 (ASCT2) Inhibitors</i>
4:25 – 4:55	Christopher Koth (Genentech, Inc. San Francisco, CA, USA) <i>Macrocyclic discovery reveals unprecedented mechanisms of ABC transporter modulation</i>
4:55 – 5:25	Karl-Heinz Altmann (Pharmaceutical Biology, ETH Zürich, Switzerland) <i>Inhibitors of the L-type amino acid transporter 1 (SLC7A5) as anticancer agents: SAR studies and future perspectives</i>
5:30 – 5:50 pm	Group picture
5:50 pm	Enjoy a relaxing evening and discover Lucerne at your own pace

Tuesday, August 6, 2019

8:00 – 9:55 am	Session 5: Women in Science Chairs: Rajini Rao (Department of Physiology, Johns Hopkins University, Baltimore, USA) and Hugues Abriel (NCCR TransCure, University of Bern, Switzerland)
8:05 – 8:35	Rajini Rao (Department of Physiology, Johns Hopkins University, Baltimore, USA) <i>SLC9A transporters in glioblastoma</i>
8:35 – 8:55	Abstract selected #42: Sonja Susic (Medical University of Vienna, Austria) <i>4-Phenylbutyrate rescues folding-deficient creatine transporter-1 variants linked to the creatine transporter deficiency syndrome</i>
8:55 – 9:15	Abstract selected #55: Zubida Al-Majdoub (University of Manchester, UK) <i>Quantification of Human Blood-Brain Barrier Transporters in Health and in Dementia by Global and Targeted Proteomics</i>
9:15 – 9:55	Panel discussion: Women in science - Challenges and solutions
9:55 – 10:25 am	Coffee break
10:25 – 12:10 pm	Session 6: NCCR TransCure - Structural Biology Chair: Dimitrios Fotiadis (NCCR TransCure, University of Bern, Switzerland)
10:30 – 11:00	Cristina Paulino (Groningen Biomolecular Sciences and Biotechnology Institute, The Netherlands) <i>The flips and flops of a scramblase story</i>
11:00 – 11:30	Qiang Zhou (Department of Biology, Westlake University, China) <i>Structure of the human LAT1-4F2hc heteromeric amino acid transporter complex</i>
11:30 – 11:50	Abstract selected #8: Patrick Bosshart (NCCR TransCure, University of Bern, Switzerland) <i>First structure of an MCT1 (SLC16A1) and MCT4 (SLC16A3) L-lactate transporter homologue: Insights into substrate binding and transport</i>
11:50 – 12:10	Abstract selected #74: Justin Walter (University of Zurich, Switzerland) <i>On the Boundary Between Transporters and Channels – Structure and Function of SLC26A9</i>
12:10 – 1:15 pm	Lunch
1:15 – 3:10 pm	Session 7: Personalized/Precision Medicine Chair: Anne Nies (Dr. Margarete Fischer-Bosch Institute of Clinical Pharmacology, Stuttgart, Germany)
1:20 – 1:50	Deanna Kroetz (Department of Bioengineering and Therapeutic Sciences, University of California San Francisco, USA) <i>Endogenous biomarkers for detection of SLC01B1 genetic variation and drug-drug interactions</i>
1:50 – 2:20	Kathleen M Hillgren (Eli Lilly and Company, Indianapolis, Indiana, USA) <i>The impact of transporter genetics in drug development</i>
2:20 – 2:40	Abstract selected #37: Ryosuke Matsukane (Kyushu University Hospital, Japan) <i>Role of MATE1 in the platinum-based chemotherapy against endometrial cancer</i>
2:40 – 3:10	Matthias Schwab (Dr. Margarete Fischer-Bosch Institute of Clinical Pharmacology, Stuttgart) <i>ADME pharmacogenomics and beyond?</i>
3:15 – 10:30 pm	Special excursion to Mount Stanserhorn and dinner

Wednesday, August 7, 2019

8:00 – 10:25 am	Session 8: SLCs and Rare Diseases Chair: Gaia Novarino (Institute of Science and Technology Austria, IST Austria)
8:05 – 8:35	Shmuel Muallem (Epithelial Signaling & Transport Section, NIH/NIDCR, MD, USA) <i>CFTR in autoimmune diseases and the microbiome</i>
8:35 – 9:05	Laura Cancedda (Department of the Neuroscience and Brain Technology, Istituto Italiano di Tecnologia, Genova, Italy) <i>Selective NKCC1 inhibition to rescue core behaviors in neurodevelopmental disorders</i>
9:05 – 9:35	Anne Murphy (Department of Pharmacology, UC San Diego, USA) <i>The consequences of SLC13A5-mediated transport of citrate to neuronal metabolism</i>
9:35 – 9:55	Abstract selected #26: Liudmila Cebotaru (John Hopkins University, USA) <i>A mechanism to reduce cysts in autosomal dominant polycystic kidney disease by inducing fluid absorption via CFTR, NHE3 and ENaC</i>
9:55 – 10:25	Yoshikatsu Kanai (Bio-System Pharmacology, Osaka University, Japan) <i>Renal cystine transporters and epithelial transport disorders</i>
10:25 – 10:55	Coffee break
10:55 – 1:10 pm	Session 9: NCCR TransCure – Physiology Chair: Christiane Albrecht (NCCR TransCure, University of Bern, Switzerland)
11:00 – 11:30	Mitchell Knutson (Food Science and Human Nutrition Department, University of Florida, USA) <i>Novel roles of ZIP8 (SLC39A8) in metal-ion transport and homeostasis</i>
11:30 – 11:50	Abstract selected #20: Jonas Zaugg (NCCR TransCure, University of Bern, Switzerland) <i>Dysregulated placental iron transport under hyperglycemic conditions: underlying mechanisms and rescue</i>
11:50 – 12:20	Suresh V. Ambudkar (Laboratory of Cell Biology, CCR, NCI, NIH, MD, USA) <i>Evidence for second site suppressor mutations in human P-glycoprotein (ABCB1)</i>
12:20 – 12:50	Franziska Theilig (Anatomisches Institut, Christian-Albrecht-Universität, Kiel, Germany) <i>mTOR regulates renal endocytosis and nutrient transport</i>
12:50 – 1:10	Ivan Gladwyn-Ng (Taconic Biosciences, Köln, Germany) <i>Leveraging Taconic suite of products and services for research in membrane transporters and channels</i>
1:10 – 1:55 pm	Lunch
1:55 – 3:25 pm	Poster Session 2: Presenting Posters #55-105 Chair: Indu Ambudkar (NIH/NIDCR, Bethesda, MD, USA)
3:25 – 3:55 pm	Coffee break
3:55 – 5:40 pm	Session 10: Organellar Transport Processes Chair: Edmund Kunji (MRC Mitochondrial Biology Unit, Cambridge, UK)
4:00 – 4:20	Abstract selected #44 Sotiria Tavoulari (University of Cambridge, UK) <i>Identifying new small molecule inhibitors for the mitochondrial pyruvate carrier</i>
4:20 – 4:50	Araceli del Arco (Centro de Biología Molecular Severo Ochoa, CSIC, Madrid, Spain) <i>Calcium-dependent mitochondrial carriers: Role in neuronal metabolism</i>
4:50 – 5:20	Edmund Kunji (MRC Mitochondrial Biology Unit, Cambridge, UK) <i>The molecular basis of diseases caused by dysfunctional mitochondrial carriers</i>
5:20 – 5:40	Abstract selected #38: Hamid Said, University of California, Irvine, USA <i>Prolonged exposure of human and mouse pancreatic acinar cells (PACs) to pro-inflammatory cytokines inhibits mitochondrial carrier-mediated uptake of thiamin pyrophosphate (TPP) and level of expression of SCL25A19</i>
5:45 pm	Enjoy a relaxing evening

Thursday, August 8, 2019

8:00 – 9:55 am	Session 11: Drug Transporters as Targets of Drug Development Based on their Physiological Roles Chair: Ken-ichi Inui (Kyoto Pharmaceutical University)
8:05 – 8:35	Satohiro Masuda (Department of Pharmacy, Kyushu University Hospital, Japan) <i>Physiological and pathophysiological interplay between OCT2/SLC22A2 and MATE/SLC47A transporters in the kidney</i>
8:35 – 9:05	Yong Huang (Xomics Biopharma Inc., Menlo Park, California, USA) <i>Targeting OCT2 for ameliorating platinum toxicity: New findings and perspectives</i>
9:05 – 9:35	Hiroyuki Kusahara (Laboratory of Molecular Pharmacokinetics, Graduate School of Pharmaceutical Sciences, University of Tokyo) <i>Clinical investigation of drug-transporter-mediated drug-drug interactions using endogenous substrates</i>
9:35 – 9:55	Abstract selected #61: Yangzom Doma Bhutia (Texas Tech University Health Sciences Center, Lubbock, TX, USA) <i>SLC6A14 as a molecular target for metformin and its relevance to the therapeutic potential of the drug for pancreatic cancer</i>
9:55 – 10:25	Coffee break
10:25 – 12:20 pm	Session 12: Solute Carriers in Kidney Chairs: Lise Bankir (INSERM, French Institute of Health and Medical Research, Chatillon, France) and Bruno Vogt (Department of Nephrology and Hypertension, Inselspital, University of Bern, Switzerland)
10:30 – 11:00	Sofia Verouti (Department for BioMedical Research, University of Bern, Switzerland) <i>Characterization of a mouse model for a ZIP8 (SLC39A8) SNP</i>
11:00 – 11:30	Jens Georg Leipziger (Department of Biomedicine, Aarhus, Denmark) <i>Cystic fibrosis: The inability and mechanism of secretin-stimulated urinary HCO₃- excretion</i>
11:30 – 11:50	Abstract selected #9: Katarina Breitholtz (AstraZeneca, Drug Safety and Metabolism, Sweden) <i>Evaluation of transporter activity in stem cell derived kidney organoids</i>
11:50 – 12:20	Orson Moe (University of Texas Southwestern Medical Center, Dallas, Texas USA) <i>Uric acid transporters and relevance to human disease</i>
12:20 – 12:30 pm	Poster Awards
12:30 – 1:30 pm	Lunch
1:30 – 2:50 pm	Session 13: Genetic Variations and Latest Breakthroughs Chair: Matthias Hediger (Department of Nephrology and Hypertension, Inselspital, University of Bern)
1:30 – 2:00	Magnus Ingelman-Sundberg (Department of Physiology and Pharmacology, Karolinska Institute, Stockholm, Sweden) <i>Human genetic variations and pharmacogenomics, with special focus on membrane transporters</i>
2:00 – 2:30	Gaia Novarino (Institute of Science and Technology Austria, IST Austria) <i>SLCs in neurodevelopmental disorders</i>
2:30 – 2:50	Rajgopal Govindarajan (The Ohio State University, USA) <i>Adult stem cell deficits drive SLC29A3 disorders in mice</i>
2:50 – 3:00 pm	Short intermission
3:00 – 4:50 pm	Session 14: TRP and Orai Calcium Channels Chairs: Christine Peinelt (NCCR TransCure, University of Bern, Switzerland) and Indu Ambudkar (NIH/NIDCR, Bethesda, MD, USA)
3:00 – 3:30	Anna Greka (Brigham and Women's Hospital, Harvard Institute of Medicine, Boston, MA USA) <i>Developing ion channel-targeted therapeutics</i>
3:30 – 4:00	Susanna Zierler (Walther Straub Institute of Pharmacology and Toxicology, Ludwig-Maximilians-Universität München, Germany) <i>TRP channels as therapeutic targets against pro-inflammatory diseases and hypersensitivity</i>
4:00 – 4:30	Ivan Bogeski (Department of Cardiovascular Physiology, Universität Göttingen, Germany) <i>Exploring the role of STIM, ORAI and ROS in immunity and cancer</i>
4:30 – 4:50	Abstract selected #6: Rajesh Bhardwaj (Department of BioMedical Research, University of Bern, Switzerland) <i>Ca²⁺/calmodulin coordinates slow calcium-dependent inactivation of the calcium release-activated calcium channel through STIM1</i>
4:50 – 5:00 pm	Concluding remarks by Organizing Committee: Matthias A. Hediger
6:00 pm	Special farewell dinner at Château Gütsch, Lucerne