

**10th BioMedical Transporters Conference, The Olympic Museum, Lausanne, Switzerland**  
**"SLC Transporters and Ion Channels in Drug Discovery and Preclinical Development"**

**Sunday, August 6, 2017**

4:00 - 6:00 pm	<b>Registration</b>
5:30 - 6:00 pm	<b>Welcome drink</b>
<b>6:00 - 7:30 pm</b>	<b>Session 1: Membrane Transporters in Health and Disease</b> <b>Chair: Bruno Stieger (Coorganizer, NCCR TransCure, University Hospital Zürich, Switzerland)</b>
6:00 - 6:15 pm	<b>Opening by organizing committee Matthias Hediger, David Hepworth, Ken-ichi Inui and Bruno Stieger</b>
6:15 - 6:30 pm	<b>Matthias Hediger (Organizer, NCCR TransCure, University of Bern, Switzerland)</b> <i>Introduction – SLC solute carriers and therapeutic opportunities</i>
6:30 - 7:30 pm	<b>Keynote address: Kathleen M. Giacomini (University of California, San Francisco, USA)</b> <i>Genetic variants in membrane transporters: implications for human disease and drug response</i>
7:30 - 9:00 pm	<b>Cocktail reception dinner</b>

**Monday, August 7, 2017**

7:30 - 8:00 am	<b>Registration</b>
<b>8:00 - 11:30 am</b>	<b>Session 2: SLC Solute Carriers in Health and Disease</b> <b>Chair: Matthias Hediger (Organizer, NCCR TransCure, University of Bern, Switzerland)</b>
8:00 - 8:35 am	<b>Giulio Superti-Furga (CeMM - Research Center for Molecular Medicine, Vienna, Austria)</b> <i>Solute carriers, metabolism and drug response: a magic triangle</i>
8:35 - 9:10 am	<b>Nieng Yan (School of Medicine, Tsinghua University, Beijing, China)</b> <i>A convenient GLUT surrogate for ligand discovery</i>
9:10 - 9:30 am	<b>Young Investigator: Gergely Gyimesi (University of Bern, Switzerland)</b> <i>The extended SLC atlas of the solute carrier superfamily</i>
9:30 - 10:00 am	<b>Coffee break</b>
10:00 - 10:30 am	<b>Edmund Kunji (University of Cambridge, UK)</b> <i>Deorphanisation of solute transporters by thermostability shift assays</i>
10:30 - 11:00 am	<b>Ming Zhou (Baylor College of Medicine, Houston, USA)</b> <i>Structure and mechanism of SLC10 family sodium-dependent bile acid transporters</i>
11:00 - 11:30 am	<b>David Hepworth (Coorganizer, Pfizer, Cambridge, USA)</b> <i>Discovery, characterization and optimization of sodium-coupled citrate transporter (NaCT; SLC13A5) inhibitors for the treatment of metabolic diseases</i>
11:30 - 12:15 pm	<b>Lunch</b>
12:15 - 1:45 pm	<b>Poster session: Part 1</b>
<b>1:45 - 3:35 pm</b>	<b>Session 3: Chemistry meets Biology: Chemical Techniques to Help Study Membrane Transport Proteins</b> <b>Chair: David Hepworth (Coorganizer, Pfizer, Cambridge, USA)</b>
1:45 - 2:05 pm	<b>Selected Investigator: Per Artursson (Department of Pharmacy, Uppsala University, Uppsala, Sweden)</b> <i>Intracellular drug bioavailability: a new predictor of transport and metabolism dependent drug disposition and intracellular target engagement</i>
2:05 - 2:35 pm	<b>Matthias Wittwer (Bayer AG, Germany)</b> <i>Screening for drug transporter inhibitors – scope and limitations: the example of an OATP2B1 screening</i>
2:35 - 3:05 pm	<b>Avner Schlessinger (Icahn School of Medicine at Mount Sinai, New York, USA)</b> <i>Structure-based ligand discovery for nutrient transporters</i>
3:05 - 3:35 pm	<b>Enrico Girardi (CeMM - Research Center for Molecular Medicine, Vienna, Austria)</b> <i>A systematic functional survey of SLC-drug associations</i>
3:35 - 4:10 pm	<b>Coffee break</b>
<b>4:10 - 6:00 pm</b>	<b>Session 4: Strategies to Identify Novel Transport Proteins as Targets for Effective Therapies</b> <b>Chair: Giulio Superti-Furga (CeMM - Research Center for Molecular Medicine, Vienna, Austria)</b>
4:10 - 4:40 pm	<b>Christopher Parker (The Scripps Research Institute, La Jolla, USA)</b> <i>Expanding the ligandable proteome: ligand and target discovery by fragment-based screening in cells</i>
4:40 - 5:00 pm	<b>Young Investigator: Justine M. Grixti (University of Manchester, UK)</b> <i>Enhancing drug efficacy and therapeutic index through cheminformatics-based selection of small molecule binary weapons that improve transporter-mediated targeting: a cytotoxicity system based on gemcitabine</i>
5:00 - 5:30 pm	<b>Gerhard Ecker (in lieu of Young Investigator Daniela Digles, University of Vienna, Austria)</b> <i>Open PHACTS – Exploiting semantically integrated life science data for transporter profiling</i>
5:30 - 6:00 pm	<b>Ramnik Xavier (Harvard University and the Broad Institute, Boston, USA)</b> <i>Genetics, genes and transporters in mucosal immunity</i>
	<b>Enjoy a relaxing evening and discover Lausanne on your own</b>

## Tuesday, August 8, 2017

08:00 - 10:30 am	<b>Session 5a: Latest Breakthroughs in the Channel and Transporter field, and Therapeutic Perspectives</b> <b>Chair: Hugues Abriel (NCCR TransCure, University of Bern, Switzerland)</b>
8:00 - 8:10 am	<b>Chair's introduction: Goals and vision of NCCR TransCure</b>
8:10 - 8:40 am	<b>Kaspar Locher (Institute of Molecular Biology and Biophysics, ETH Zürich, Switzerland)</b> <i>Cryo-EM structure of the human multidrug transporter ABCG2</i>
8:40 - 9:00 am	<b>Young Investigator: Manuele Rebsamen (CeMM - Research Center for Molecular Medicine, Vienna, Austria)</b> <i>Loss-of-function genetic screens on necroptotic cell death reveal the role of zinc transporter SLC39A7 in endoplasmic reticulum (ER) homeostasis and receptor trafficking</i>
9:00 - 9:30 am	<b>Dimitrios Fotiadis (NCCR TransCure, University of Bern, Switzerland)</b> <i>Insights into the molecular basis for substrate binding and specificity of a prokaryotic SLC7 family amino acid transporter</i>
9:30 - 10:00 am	<b>Coffee break</b>
10:00 - 10:30 am	<b>Christopher Koth (Genentech - A Member of the Roche Group, San Francisco, USA)</b> <i>Emerging pharmacological insights from structural studies of ion channels and transporters</i>
10:30 - 12:00 pm	<b>Session 5b: Mechanisms of Placental Nutrient Transport and Therapeutic Perspectives</b> <b>Chair: Christiane Albrecht (NCCR TransCure, University of Bern, Switzerland)</b>
10:30 - 10:40 am	<b>Chair's introduction</b>
10:40 - 11:10 am	<b>Theresa Powell (University of Colorado, USA)</b> <i>Human placental macronutrient transporters: activity, regulation and their role in determining birth outcomes and life long health</i>
11:10 - 11:30 am	<b>Young Investigator: Lenka Ťupová (Charles University, Czech Republic)</b> <i>Transport of antiretroviral drug maraviroc across placental barrier</i>
11:30 - 12:00 pm	<b>Graham Burton (University of Cambridge, UK)</b> <i>The human yolk sac; its potential role in maternal-fetal transport during early pregnancy</i>
12:00 - 12:15 pm	<b>Group Picture</b>
12:15 - 1:15 pm	<b>Lunch</b>
1:15 - 3:05 pm	<b>Session 6: New Progress in the Structural Biology of Membrane Transport Proteins and Importance in Drug Discovery</b> <b>Chair: Nieng Yan (School of Medicine, Tsinghua University, Beijing, China)</b>
1:15 - 1:45 pm	<b>Suzanne Pfeffer (Stanford University School of Medicine, CA, USA)</b> <i>NPC1-mediated cholesterol export from lysosomes</i>
1:45 - 2:05 pm	<b>Young Investigator: Benjamin Cléménçon (University of Bern, Switzerland)</b> <i>SLCs deorphanization using a microscale thermophoresis (MST)-based ligand binding assay</i>
2:05 - 2:35 pm	<b>Osamu Nureki (University of Tokyo, Japan)</b> <i>Structural basis for molecular mechanisms of new family transporters</i>
2:35 - 3:05 pm	<b>Simon Newstead (University of Oxford, UK)</b> <i>Structural and functional studies on SLC transporters involved in nutrient uptake and drug transport</i>
3:15 - 10:00 pm	<b>Special excursion discovering Lake Geneva, Lavaux and medieval Chillon Castle</b>

## Wednesday, August 9, 2017

8:00 - 11:30 am	<b>Session 7: Store-operated Calcium Channels and TRP Ion Channels in Health and Disease</b> <b>Chair: Nicolas Demaurex (University of Geneva, Switzerland)</b>
8:00 - 8:10 am	<b>Chair's introduction</b>
8:10 - 8:30 am	<b>Selected Investigator: Rodrigo Lacruz (New York University College of Dentistry, USA)</b> <i>Loss of SOCE dysregulates enamel mineralization via multiple pathways including disruption of SLC genes</i>
8:30 - 9:00 am	<b>Christine Peinelt (NCCR TransCure, University of Bern, Switzerland)</b> <i>A sugary top on ORAI1: cell type-specific glycosylation of Orai1 modulates store-operated Ca<sup>2+</sup> entry</i>
9:00 - 9:30 am	<b>Murali Prakriya (Northwestern University, Chicago, USA)</b> <i>Regulation of astrocyte calcium signaling and gliotransmitter release by store-operated Orai1 channels</i>
9:30 - 10:00 am	<b>Coffee break</b>
10:00 - 10:30 am	<b>Ivan Bogeski (Georg-August-Universität Göttingen, Germany)</b> <i>A calcium-redox feedback loop controls monocyte immune responses</i>
10:30 - 11:00 am	<b>Anant B. Parekh (University of Oxford, UK)</b> <i>Coupling calcium microdomains near store-operated channels at the cell-surface to transcription factor activation</i>
11:00 - 11:30 am	<b>Andreas Guse (University of Hamburg, Germany)</b> <i>Integration of adenine nucleotide-dependent calcium signalling</i>
11:30 - 12:15 pm	<b>Lunch</b>
12:15 - 1:45 pm	<b>Poster session: Part 2</b>

1:45 - 3:35 pm	<b>Session 8: Membrane Transport in Renal Dysfunction</b> <b>Chair: Bruno Vogt (University Hospital Bern, Department of Nephrology and Hypertension, Switzerland)</b>
1:45 - 2:15 pm	<b>Kamel Laghmani (INSERM, Paris, France)</b> <i>MAGE-D2: A new player in the regulation of renal salt transporters</i>
2:15 - 2:45 pm	<b>Dmitri Firsov (University of Lausanne, Switzerland)</b> <i>Renal fanconi syndrome and hypophosphatemic rickets in the absence of xenotropic and polytropic retroviral receptor 1 (XPR1) in the nephron</i>
2:45 - 3:05 pm	<b>Young Investigator: Sofia Verouti (University Hospital Bern, Switzerland)</b> <i>Impaired urinary osmolality in SLC16A12 knockout rats</i>
3:05 - 3:35 pm	<b>Jens Leipziger (Aarhus University, Denmark)</b> <i>Mechanism(s) of renal acid and base excretion</i>
3:35 - 4:05 pm	<b>Coffee break</b>
4:05 - 6:30 pm	<b>Session 9: Transporters as Targets for Cancer Treatment</b> <b>Chair: Yoshikatsu Kanai (Osaka University, Japan)</b>
4:05 - 4:30 pm	<b>Andre Bazzone (Nanion Technologies GmbH, Munich, Germany)</b> <i>An emerging technique for the characterization of transport proteins: SSM-based electrophysiology</i>
4:30 - 5:00 pm	<b>Inti Zlobec (University of Bern, Switzerland)</b> <i>Biomarkers in cancer research: combining next-generation tissue microarrays (ngTMA) and digital image analysis (DIA)</i>
5:00 - 5:30 pm	<b>Osamu Nagano (Keio University, Tokyo, Japan)</b> <i>Cancer treatment strategy targeting antioxidant system potentiated by CD44v-xCT in stem-like cancer cells</i>
5:30 - 6:00 pm	<b>Yoshikatsu Kanai (Osaka University, Japan)</b> <i>Development of anti-tumor drugs and PET probes targeting amino acid transporters in cancers</i>
6:00 - 6:30 pm	<b>Manuel Palacin (University of Barcelona, Spain)</b> <i>Structure and mechanism of the bacterial Alanine-Serine-Cysteine transporter (BasC): the first structural and functional homologue of human LAT transporters</i>
	<b>Enjoy a relaxing evening on the shores of Lake Geneva</b>

## Thursday, August 10, 2017

8:00 - 9:55 am	<b>Session 10: Asymmetric Tissue Distribution of Drugs and Drug Targeting Strategies</b> <b>Chair: Ken-ichi Inui (Coorganizer, Kyoto Pharmaceutical University, Japan)</b>
8:00 - 8:10 am	<b>Chair's introduction</b>
8:10 - 8:45 am	<b>Jash Unadkat (University of Washington, USA)</b> <i>Tissue to plasma disconnect in drug exposure: methods (proteomics and PET imaging) to address this next frontier in drug disposition research</i>
8:45 - 9:05 am	<b>Young Investigator: Kimio Tohyama (Takeda Pharmaceutical Company, Japan)</b> <i>Relationship of MATE1 inhibition and cytotoxicity in nephrotoxicity: application for safety evaluation in early drug discovery</i>
9:05 - 9:30 am	<b>Kazuya Maeda (University of Tokyo, Japan)</b> <i>Theoretical evaluation of the hepatic accumulation of transporter substrate drugs -from in vitro experiments to in vivo</i>
9:30 - 9:55 am	<b>Atsushi Yonezawa (Kyoto University Hospital, Japan)</b> <i>Asymmetric riboflavin distribution in Brown-Vialetto-Van-Laere syndrome patients with SLC52A mutations</i>
9:55 - 10:25 am	<b>Coffee break</b>
10:25 - 12:15 pm	<b>Session 11: Membrane Transporters of the CNS and Roles in Neurodegenerative Diseases</b> <b>Chair: Harald Sitte (Medical University of Vienna, Austria)</b>
10:25 - 10:55 am	<b>Ulrik Gether (University of Copenhagen, Denmark)</b> <i>Disease-associated mutations in the dopamine transporter: towards new mouse models for dopaminergic pathologies</i>
10:55 - 11:25 am	<b>Aurelio Galli (Vanderbilt University, USA)</b> <i>Failure to prime the dopamine 'pump' in autism</i>
11:25 - 11:55 am	<b>Harald Sitte (Medical University of Vienna, Austria)</b> <i>Transporters as clinical targets of drugs: amphetamines, new psychoactive substances and the monoamine transporter cycle</i>
11:55 - 12:15 am	<b>Selected Investigator: Robert Vandenberg (University of Sydney, Australia)</b> <i>Novel lipid inhibitors of GlyT2 for the treatment of chronic pain</i>
12:15 - 12:30 pm	<b>Poster awards</b>
12:30 - 1:15 pm	<b>Lunch</b>
1:15 - 4:30 pm	<b>Session 12: Drug Transporters in ADMET and latest Breakthroughs in the Transporter Field</b> <b>Chair: Bruno Stieger (Co-Organizer, NCCR TransCure, University of Zurich, Switzerland)</b>
1:15 - 1:45 pm	<b>Raymond Evers (Merck &amp; Co, Kenilworth, NJ, USA)</b> <i>Identification of endogenous biomarkers for drug transporter inhibition in the liver and kidney</i>
1:45 - 2:15 pm	<b>Michael Köttgen (University Medical Center Freiburg, Germany)</b> <i>A forward genetic screen identifies a mitochondrial solute carrier required for vertebrate left-right determination</i>
2:15 - 2:45 pm	<b>Kim Brouwer (UNC Eshelman School of Pharmacy, The University of North Carolina, USA)</b> <i>Cellular models for assessing the role of transporters in drug-induced liver injury</i>
2:45 - 3:15 pm	<b>Coffee break</b>
3:15 - 3:45 pm	<b>Bo Feng (Pfizer, Groton, CT, USA)</b> <i>Mechanistic in vitro transporter studies and model for the prediction of renal DDIs</i>
3:45 - 4:15 pm	<b>Igor Stagljar (University of Toronto, Canada)</b> <i>Investigating dynamic CFTR wild type and F508del disease interactomes to understand cystic fibrosis</i>
4:15 - 4:30 pm	<b>Matthias Hediger (Organizer, NCCR TransCure, University of Bern, Switzerland)</b> <i>Closing remarks</i>
4:30 - 11:00 pm	<b>Special farewell dinner atop Mount Rochers-de-Naye, enjoying the scenic beauty of Lake Geneva and the Alps</b>