**10th BioMedical Transporters Conference, The Olympic Museum, Lausanne, Switzerland**

"SLC Transporters and Ion Channels in Drug Discovery and Preclinical Development"

**Sunday, August 6, 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>4:00 - 6:00 pm</td>
<td>Registration</td>
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<tr>
<td>5:30 - 6:00 pm</td>
<td>Welcome drink</td>
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<tr>
<td>6:00 - 7:30 pm</td>
<td><strong>Session 1: Membrane Transporters in Health and Disease</strong>&lt;br&gt;Chair: Bruno Stieger (Coorganizer, NCCR TransCure, University Hospital Zürich, Switzerland)</td>
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<tr>
<td>6:00 - 6:15 pm</td>
<td>Opening by organizing committee Matthias Hediger, David Hepworth, Ken-ichi Inui and Bruno Stieger</td>
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<tr>
<td>6:15 - 6:30 pm</td>
<td>Matthias Hediger (Organizer, NCCR TransCure, University of Bern, Switzerland) Introduction – SLC solute carriers and therapeutic opportunities</td>
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<tr>
<td>6:30 - 7:30 pm</td>
<td>Keynote address: Kathleen M. Giacomini (University of California, San Francisco, USA) Genetic variants in membrane transporters: implications for human disease and drug response</td>
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<tr>
<td>7:30 - 9:00 pm</td>
<td>Cocktail reception dinner</td>
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**Monday, August 7, 2017**

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

Enjoy a relaxing evening and discover Lausanne on your own
# 10th BioMedical Transporters Conference

**Location:** The Olympic Museum, Lausanne, Switzerland

**Event:** "SLC Transporters and Ion Channels in Drug Discovery and Preclinical Development"

**Time:** 08:00 - 10:30 am

**Session 5a: Latest Breakthroughs in the Channel and Transporter field, and Therapeutic Perspectives**

**Chair:** Hugues Abriel (NCCR TransCure, University of Bern, Switzerland)

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<tr>
<th>Time</th>
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<tr>
<td>08:00 - 08:10 am</td>
<td><strong>Chair’s introduction: Goals and vision of NCCR TransCure</strong></td>
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</table>
| 08:10 - 08:40 am | **Kaspar Locher (Institute of Molecular Biology and Biophysics, ETH Zürich, Switzerland)**  
**Cryo-EM structure of the human multidrug transporter ABCG2** |
| 08:40 - 09:00 am | **Young Investigator: Manuele Rebsamen (CeHM - Research Center for Molecular Medicine, Vienna, Austria)**  
**Loss-of-function genetic screens on necrototic cell death reveal the role of zinc transporter SLC39A7 in endoplasmic reticulum (ER) homeostasis and receptor trafficking** |
| 09:00 - 09:30 am | **Dimitrios Fotiadis (NCCR TransCure, University of Bern, Switzerland)**      
**Insights into the molecular basis for substrate binding and specificity of a prokaryotic SLC7 family amino acid transporter** |
| 09:30 - 10:00 am | **Coffee break**                                                             |
| 10:00 - 10:30 am | **Christopher Koth (Genentech - A Member of the Roche Group, San Francisco, USA)**  
**Emerging pharmacological insights from structural studies of ion channels and transporters** |

**Session 5b: Mechanisms of Placental Nutrient Transport and Therapeutic Perspectives**

**Chair:** Christiane Albrecht (NCCR TransCure, University of Bern, Switzerland)

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<td><strong>Chair’s introduction</strong></td>
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| 10:40 - 11:10 am | **Theresa Powell (University of Colorado, USA)**                             
**Human placental macronutrient transporters: activity, regulation and their role in determining birth outcomes and life long health** |
| 11:10 - 11:30 am | **Young Investigator: Lenka Ťupová (Charles University, Czech Republic)**  
**Transport of antiretroviral drug maraviroc across placental barrier** |
| 11:30 - 12:00 am | **Graham Burton (University of Cambridge, UK)**                              
**The human yolk sac sac; its potential role in maternal-fetal transport during early pregnancy** |
| 12:00 - 12:15 pm | **Group Picture**                                                           |
| 12:15 - 1:15 pm | **Lunch**                                                                   |
| 1:15 - 3:05 pm  | **Session 6: New Progress in the Structural Biology of Membrane Transport Proteins and Importance in Drug Discovery**  
**Chair: Nieng Yan (School of Medicine, Tsinghua University, Beijing, China)** |
| 1:15 - 1:45 pm  | **Suzanne Pfeffer (Stanford University School of Medicine, CA, USA)**            
**NPC1-mediated cholesterol export from lysosomes** |
| 1:45 - 2:05 pm  | **Young Investigator: Benjamin Clémençon (University of Bern, Switzerland)**  
**SLCs deorphanization using a microscale thermophoresis (MST)-based ligand binding assay** |
| 2:05 - 2:35 pm  | **Osamu Nureki (University of Tokyo, Japan)**                               
**Structural basis for molecular mechanisms of new family transporters** |
| 2:35 - 3:05 pm  | **Simon Newstead (University of Oxford, UK)**                               
**Structural and functional studies on SLC transporters involved in nutrient uptake and drug transport** |
| 3:15 - 10:00 pm | **Special excursion discovering Lake Geneva, Lavaux and medieval Chillon Castle** |

**Session 7: Store-operated Calcium Channels and TRP Ion Channels in Health and Disease**

**Chair:** Nicolas Demaurex (University of Geneva, Switzerland)

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<tr>
<td>8:00 - 08:10 am</td>
<td><strong>Chair’s introduction</strong></td>
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</table>
| 8:10 - 08:30 am | **Selected Investigator: Rodrigo Lacruz (New York University College of Dentistry, USA)**  
**Loss of SOCE dysregulates enamel mineralization via multiple pathways including disruption of SLC genes** |
| 08:30 - 09:00 am | **Christine Peinelt (NCCR TransCure, University of Bern, Switzerland)**       ।  
**A sugary top on ORAI1: cell type-specific glycosylation of Orai1 modulates store-operated Ca2+ entry** |
| 09:00 - 09:30 am | **Murali Prakriya (Northwestern University, Chicago, USA)**                   ।  
**Regulation of astrocyte calcium signaling and gliotransmitter release by store-operated Orai1 channels** |
| 09:30 - 10:00 am | **Coffee break**                                                            |
| 10:00 - 10:30 am | **Ivan Bogeski (Georg-August-Universität Göttingen, Germany)**              ।  
**A calcium-redox feedback loop controls monocyte immune responses** |
| 10:30 - 11:00 am | **Anant B. Parekh (University of Oxford, UK)**                              ।  
**Coupling calcium microdomains near store-operated channels at the cell-surface to transcription factor activation** |
| 11:00 - 11:30 am | **Andreas Guse (University of Hamburg, Germany)**                           ।  
**Integration of adenine nucleotide-dependent calcium signalling** |
| 11:30 - 12:15 pm | **Lunch**                                                                   |
| 12:15 - 1:45 pm | **Poster session: Part 2**                                                   |

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**Additional Information:**

- **Tuesday, August 8, 2017**
- **Wednesday, August 9, 2017**
<table>
<thead>
<tr>
<th>Time</th>
<th>Session 8: Membrane Transport in Renal Dysfunction</th>
<th>Chair: Bruno Vogt (University Hospital Bern, Department of Nephrology and Hypertension, Switzerland)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:45 - 2:15 pm</td>
<td>Kamel Laghmani (INSERM, Paris, France)</td>
<td>MAGE-D2: A new player in the regulation of renal salt transporters</td>
</tr>
<tr>
<td>2:15 - 2:45 pm</td>
<td>Dmitri Firsov (University of Lausanne, Switzerland)</td>
<td>Renal fanconi syndrome and hypophosphatemic rickets in the absence of xenotropic and polytropic retroviral receptor 1 (XPR1) in the nephron</td>
</tr>
<tr>
<td>2:45 - 3:05 pm</td>
<td>Young Investigator: Sofia Veroulti (University Hospital Bern, Switzerland)</td>
<td>Impaired urinary osmolality in SLC16A12 knockout rats</td>
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<tr>
<td>3:05 - 3:35 pm</td>
<td>Jens Leipziger (Aarhus University, Denmark)</td>
<td>Mechanism(s) of renal acid and base excretion</td>
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<tr>
<td>3:35 - 4:05 pm</td>
<td>Coffee break</td>
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<tr>
<td>4:05 - 6:30 pm</td>
<td>Session 9: Transporters as Targets for Cancer Treatment</td>
<td>Chair: Yoshikatsu Kanai (Osaka University, Japan)</td>
</tr>
<tr>
<td>4:05 - 4:30 pm</td>
<td>Andre Bazzone (Nanion Technologies GmbH, Munich, Germany)</td>
<td>An emerging technique for the characterization of transport proteins: SSM-based electrophysiology</td>
</tr>
<tr>
<td>4:30 - 5:00 pm</td>
<td>Inti bli (University of Bern, Switzerland)</td>
<td>Biomarkers in cancer research: combining next-generation tissue microarrays (ngTMA) and digital image analysis (DIA)</td>
</tr>
<tr>
<td>5:00 - 5:30 pm</td>
<td>Osamu Nagano (Keio University, Tokyo, Japan)</td>
<td>Cancer treatment targeting antioxidant system potentiated by CD44v-xCT in stem-like cancer cells</td>
</tr>
<tr>
<td>5:30 - 6:00 pm</td>
<td>Yoshikatsu Kanai (Osaka University, Japan)</td>
<td>Development of anti-tumor drugs and PET probes targeting amino acid transporters in cancers</td>
</tr>
<tr>
<td>6:00 - 6:30 pm</td>
<td>Manuel Palacín (University of Barcelona, Spain)</td>
<td>Structure and mechanism of the bacterial Alanine-Serine-Cysteine transporter (BasC): the first structural and functional homologue of human LAT transporters</td>
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Enjoy a relaxing evening on the shores of Lake Geneva