Workshop Program Day 1 (March 13)

11.00 - 13.00   Workshops 1 - 4

WS 1   Potassium channels: molecular biology, pathophysiology, and computational aspects
Room: Sydney

11.00 – 11.05	**Alex J. Baertschi,** CMU, University of Geneva, Switzerland *Introduction*
11.05 – 11.35	**Ivet Bahar,** School of Medicine, University of Pittsburgh, USA *Gating mechanisms in membrane protein: computational study of the dynamics of potassium channels and glutamate transporters*
11.35 – 12.00	**Richard Warth,** University of Regensburg, Germany *Pathophysiology of epithelial potassium channels in the gastrointestinal tract*
12.00 – 12.20	**Hugues Abriel,** University of Lausanne *IKCNQ1 potassium channel is down-regulated by ubiquitylating enzymes of the Nedd4/Nedd4-like family*
12.20 – 12.45	**Marcus C. Schaub,** University of Zurich, Switzerland *Role of cardiac KATP channels in calcium handling and metabolism*
12.45 – 13.00	General Discussion and Conclusion

WS 2   Computational Biology:
Room: Montreal

11.00 – 11.40	**David Harel,** Weizmann Institute of Science, Rehovot, Israel *In Silico Biology, or On Comprehensive and Realistic Modeling*
11.40 – 12.20	**Shalev Itzkovitz,** Weizmann Institute of Science, Rehovot, Israel *Using genomic variability to reconstruct cell lineage*
12.20 – 13.00	**Alfio Quarteroni,** EPFL, Lausanne, Switzerland *On the mathematical modeling of the human cardiovascular system*
13.00 – 13.10	**Christian von Mering,** University of Zurich, Switzerland *Phylogenetic Assessment of microbial communities through environmental sequencE data*
13.10 – 13.20	**Sven Bergmann,** SIB & University of Lausanne, Switzerland *Pre-steady-sState deconding of the bicoid morphogen gradient*
13.20 – 13.30	**Marco Scarsi,** SIB & Biozentrum University of Basel, Switzerland *A Combined Virtual Screening and Biological Assay Approach*

WS 3   Stem cells and cancer:
Room: Singapore

11.00 – 11.15   **Stephen Ryser,** Geneva University Hospital, Switzerland
Defining the niche of male germinal stem cell in new born rat by expression profiling

11.15 – 11.40   **Neil J. Harrison,** University of Sheffield, UK
Culture adaptation of embryonic stem cells: models for germ cell tumour progression

11.40 – 12.05   **Cathrin Brisken,** ISREC, Lausanne, Switzerland
Hormones and paracrine signaling in breast development and breast cancer

12.05 – 12.20   **Martin Buess,** University of Basel, Switzerland
In vitro analysis of heterotypic cell-cell interaction effects to identify the contribution of tumor-stroma interaction on global gene expression profiles in breast cancer

12.20 – 12.45   **Andreas Trumpp,** ISREC, Lausanne, Switzerland
Cooperative control of hematopoietic stem cell function by c-Myc and N-Myc.

12.45 – 13.00   **Damaris Bausch-Fluck,** Swiss Federal Institute of Technology (ETH) Zurich, Switzerland
Cell Surface Capturing as a method of choice for the identification and quantification of relevant plasma membrane antigens of cancer stem cells.

WS 4   Statistics in animal research
Room: Rio

11.00 – 11.45   **Michael F.W. Festing,** NC3Rs, London, UK
We need to improve the design and statistical analysis of animal experiments.

11.45 – 12.05   **Robert Greif,** Inselspital Bern, Switzerland
Missing data: what can I do with it?

12.05 – 12.25   **Javier Fandino,** Inselspital Bern, Switzerland
So what? How do I define relevant outcome parameters in experimental research?

12.25 – 12.45   **Eva Waiblinger,** Tierversuchskommission Basel, Universität Zürich, Switzerland
Statistics and relevance – How can I convince the local animal welfare committee?

12.45 -   13.00   Discussion

Workshop Program Day 2 (March 14)

10.30 - 12.30   Workshops 5 - 7

WS 5   Small RNAs
Room: Sydney

10.30 – 11.00	**Mihaela Zavolan,** Biozentrum University of Basel, Switzerland *Computational prediction of ncRNA genes and targets*
11.00 – 11.30	**Elisa Izaurralde,** Max Planck-Institute for Developmental Biology, Tübingen, Germany *Mechanisms of miRNA-mediated gene silencing*
11.30 – 11.45	**Xavier Ding,** Friedrich Miescher Institute, Basel Switzerland *Let-7 microRNA mode of action in vivo: translational effect and role of eif-3*
11.45 – 12.15	**Markus Stoffel,** Institute for Molecular Systems Biology, ETH Zurich, Switzerland *Approaches to study miRNA function in mammals*
12.15 – 12.30	**Jurgi Camblong,** University of Geneva, Switzerland *Anti-sense RNA stabilization in S. cerevisiae induces gene silencing by Hda1/2/3 histone deacetylase complex*

WS 6   Imaging and image analysis
Room: Rio

10.30 – 11.00	**Thomas Vetter,** University of Basel, Switzerland *Statistical shape models for the analysis of human morphology*
11.00 – 11.30	**Jean-Yves Chatton,** University of Lausanne, Switzerland *Image analysis and processing for quantitative cellular imaging*
11.30 – 12.00	**Graham Knott,** University of Lausanne, Switzerland *Exploring brain circuits with serial section electron microscopy; current technology and future directions*
12.00 – 12.15	**Matthias Ochs,** University of Bern, Switzerland *Quantitation of lung structure by stereology: Leonhard Euler and the number of alveoli*
12.15 – 12.30	**Tilman Vogt,** University of Fribourg, Switzerland *The three dimensional reconstruction of motor endplates of the vertebrate skeletal muscle fibres.*

WS 7   Infectious Diseases
Room: Singapore

10.30 – 10.50	**Isabel Sorg,** Biozentrum University of Basel, Switzerland *The Yersinia basal body protein YscU plays a role in recognition of Type III export*
10.50 – 11.10	**Nicolas Maire,** Swiss Tropical Institute, Basel, Switzerland *Stochastic simulation of Malaria epidemiology and control*
11.10 – 11.30	**Laurence Neff,** Geneva University Hospital, Switzerland *Molecular characterization and subcellular localization of macrophage infectivity potentiator, a Chlamydia trachomatis lipoprotein*
11.30 – 11.50	**Christian L. Althaus,** Utrecht University, The Netherlands *Modeling CTL evasion during SIV/HIV infection. Is there a great escape?*

11.50 – 12.10	**Sabine Kuettel,** University of Geneva, Switzerland
	Adenosine kinase and glyceraldehyde-3-phosphate dehydrogenase identified as putative CD12001 target(S) in Trypanosoma brucei rhodesiense
12.10 – 12.30	**Christian J. Burckhardt,** Institute of Zoology, University of Zürich, Zürich, Switzerland,
	Computational dissection of adenovirus cell surface motion reveals receptor mediated virus drifting on filopodia

15.30 - 17.30   Workshops 8 - 11

WS 8   Cells to Organs
Room: Singapore

15.30 – 16.00	**Lilianna Solnica-Krezel,** Vanderbilt University, Nashville, USA
	Apelin and its Receptor Control Heart Field Formation during Zebrafish Gastrulation
16.00 – 16.30	**Bernhard Herrmann,** Max-Planck-Institute for Molecular Genetics, Berlin, Germany
	Towards systems biology of organogenesis: deciphering regulatory networks controlling mesoderm development in the mouse
16.30 – 17.00	**Andy McMahon,** Harvard University, Cambridge, MA, USA
	From precursor to product: organogenesis of the mammalian kidney.
17.00 – 17.15	**Anne Grapin-Botton,** ISREC/EPFL, Epalinges/Lausanne, Switzerland
	Waves of endocrine-cell differentiation in the pancreas
17.15 – 17.30	**Johannes Jaeger,** University of Cambridge, UK
	Dynamics control of positional information by the Drosophila gap gene network

WS 9   Novel approaches in anti-inflammatory drug therapy
Room: Montreal

15.30 – 16.00	**Peter Mertens,** University of Aachen, Germany
	From inflammation to fibrosis: the Y-box protein-1 as extracellular mediator of fibrogenesis
16.00 – 16.30	**Jürgen Stein,** University Hospital Frankfurt am Main, Germany
	Anti-inflammatory mechanisms of histone deacetylase inhibitors
16.30 – 16.45	**Bruno Schnyder,** CNRS, Molecular Immunology and Embryology, Orléans, France
	Interleukin-17 is a negative regulator of established allergic asthma
16.45 – 17.00	**Frauke Döll,** University of Bern, Switzerland
	Hypoxia regulates the sphingosine kinase-1 activity and expression in the endothelial cell line EA.hy926
17.00 – 17.30	**Josef Pfeilschifter,** University of Frankfurt am Main, Germany
	Sphingolipid signaling in inflammation

WS 10 Computation in heart disease
Room Rio

15.30 – 15.50	**Pascal Giat,** Europe GE Healtcare *Cardiac CT image reconstruction*
15.55 – 16.15	**Francesco Faletra,** Cardiocentro Ticino, Lugano, Switzerland *New approaches in learning cardiac anatomy*
16.20 – 16.40	**Giovanni Pedrazzini,** Cardiocentro Ticino, Lugano, Switzerland *Cardiac plaque imaging*
16.45 – 17.05	**Stefanos Demertzis,** *From Leonardo da Vinci to the operating room via computational simulation: surgical reconstruction of the aortic root*

WS 11 From stem cells to trees
Room: Sydney

15.30 – 16.00	**Henrik Jönsson,** Lund University, Sweden *Computational modelling and live imaging of plant development*
16.00 – 16.30	**Cris Kuhlemeier,** University of Bern, Switzerland *Mathematical models of phyllotaxis*
16.30 – 17.00	**Philipp Zimmermann,** ETH Zürich, Switzerland *Studying transcriptomes using gene and condition meta-profiles*
17.00 – 17.30	**Christian Körner,** University of Basel, Switzerland *From assimilation to growth: carbon limitation in plants*