BMI RESEARCH DAY 2018
From Neural Circuits to Neurorobotics

PROGRAM
WEDNESDAY, June 13th, 09:00 am
CO2 & SV Lobby

09:00-09:10 Opening - Carmen Sandi

Session 1/ Neural Circuit Structure
09:10-09:30 Long-range connectivity of neocortex
Carl Petersen, Sensory Processing Laboratory

09:30-09:50 Exploring brain connections
Graham Knott, Bioelectron Microscopy Core Facility

09:50-10:10 Domain Adaptation and Active Learning for Microscopy Imaging
Pascal Fua, Computer Vision Laboratory

10:10-10:30 Brain microstructure estimation by diffusion MRI and multicontrast imaging
Jean-Philippe Thiran, Signal Processing Laboratory 5

10:30-11:00 COFFEE BREAK

Session 2/ Neural Circuit Function
11:00-11:20 Afferent synaptic pathways in associative fear learning
Ralf Schneggenburger, Laboratory of Synaptic Mechanisms

11:20-11:40 Epigenetic mechanisms in Alzheimer’s disease
Johannes Gräff, Laboratory of Neuroepigenetics

11:40-12:00 Wetware vs. hardware - how neuronal circuits differ from computer chips
Brian McCabe, Laboratory of Neural Genetics & Disease

12:00-12:20 Mitochondria in motivational neural circuits
Carmen Sandi, Behavioral Genetics Laboratory

12:20-14:00 LUNCH BREAK

Session 3/ Neural Circuit Computation
14:00-14:20 Bridging scales: From connected neurons to connected populations
Wulfram Gerstner, Computational Neuroscience Laboratory

14:20-14:40 Topological vistas in neuroscience
Kathryn Hess Bellwald, Laboratory for Topology and Neuroscience

14:40-15:00 Local circuits and holistic perception
Michael Herzog, Psychophysics Laboratory

15:00-15:20 Integrative neuroscience: an approach to reconcile diverse data and knowledge
Henry Markram, Neural Microcircuitry Laboratory

15:20-16:00 COFFEE BREAK

Session 4/ Neurorobotics
16:00-16:20 How robots can learn from insects
Pavan Ramdya, Neuroengineering Laboratory

16:20-16:40 Investigating the spinal cord circuits underlying locomotion using neuromechanical simulations and biorobots
Auke Ijspeert, Biorobotics Laboratory

16:40-17:00 Title TBD - Jamie Paik, Reconfigurable Robotics Laboratory

17:00-17:20 Robots for Odor Source Localization
Alcherio Martinoli, Distributed Intelligent Systems and Algorithms Laboratory

17:20-21:00 POSTERS & BBQ

Organizers:
Carl Petersen / BMI Team
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