Spont 2024

Program

Monday, November 4th

13:00-13:45 Registration

13:45-14:00 Welcome address: Christian Lohmann & Guillermina López-Bendito

Session 1. **Spontaneous activity in the visual system I**
Chairperson: Kenichi Ohki

14:00-14:30 **Marla Feller**. The functional development of starburst amacrine cells and their role in generating propagation bias of retinal waves.

14:30-15:00 **Chinfei Chen**. The Influence of Experience on Thalamic Circuits.

15:00-15:20 Short talk: **Susanne Falkner**. Neonatal spontaneous activity shapes adult visual processing - A roadmap of functional development of identified pyramidal neurons in the mouse visual cortex.

15:20-15:50 Coffee Break

15:50-16:20 **Keisuke Yonehara.** Emergence of functional retinal circuits during postnatal development.

16:20-16:50 **Michael Crair.** Self-organization in the developing nervous system: Learning to see with your eyes closed.

16:50-17:05 Short Break

Session 2. **Spontaneous activity in motor systems**
Chairperson: Corette Wierenga

17:05-17:25 Short Talk: **Catarina Osorio**. Selective requirement for early Purkinje cell intrinsic activity in shaping cerebellar development and function.

17:25-17:45 Short Talk: **Martina Riva**. Perinatal shift in spontaneous activity patterns in the developing cerebellum.

17:45-18:05 Short Talk: **Sivapratha Nagappan Chettiar.** Divergent molecular signals for synapse and axon refinement.

18:30 Bus to Altea
19:00 Guided tour to Altea

Tuesday, November 5th

Session 3. Spontaneous activity in the somatosensory system
Chairperson: Simona Lodato

9:00-9:30 **Marta Nieto**. Early cortical GABAergic interneurons determine the projection patterns of L4 excitatory neurons.
9:30-9:50 Short Talk: **Michelle Wu**. Spontaneous excitatory and inhibitory dynamics in developing cortical sensory networks are reproduced in a novel model of network desynchronization.
9:50-10:20 **Takuji Iwasato**. Activity-dependent neuronal circuit refinement in the postnatal barrel cortex.

10:20-10:50 Coffee Break

Session 4. Spontaneous activity in the cortex
Chairperson: Juliana Martins da Rosa

10:50-11:20 **Rosa Cossart**. Longitudinal tracking of individual neuronal timelines in the developing cortex
11:20-11:40 Short Talk: **Alicia Che**. Translaminar Synchronous Neuronal Activity is Required for Columnar Synaptic Strengthening in the Neocortex
11:40-12:00 Short Talk: **Takeshi Imai**. Dendritic compartment-specific development of excitatory synaptic inputs in the cortical layer 5 neurons
12:00-12:30 **Dwight Bergles**. Spontaneous activity induces correlated neuron and astrocyte activity in developing sensory domains.
12:30-13:00 **Guillermina López-Bendito**. The crosstalk between spontaneous activity and genetic programs in sensory-modality acquisition

13:00-15:00 Lunch

14:15- Business meeting (perspectives on future SPONT meetings)

Session 5. Spontaneous activity in the visual system II

Chairperson: Mark Blumberg

15:00-15:30 **David Fitzpatrick**. Development of modular cortical networks: From patterns of spontaneous activity to reliable visual representations.

15:30-15:50 Short Talk: **Matthias Kaschube**. Increase in dimensionality and sparsification of spontaneous neural activity over development across diverse cortical areas.

15:50-16:20 **Julijana Gjorgjieva**. Emergence of structured connectivity through activity-dependent synaptic plasticity.

16:20-19:30 Poster Session + coffee

20:00 Departure to Gala Dinner

20:30 Gala Dinner at Bay Club Restaurant

Wednesday, November 6th

Session 6. Spontaneous activity in behavioral states and neuromodulation

Chairperson: Alexandre Tiriac

9:30-10:00 **Orkun Akin**. Neuropeptide regulation of activity in the developing brain.

10:00-10:30 **Christian Lohmann**. Endogenous acetylcholine shapes visual cortex spontaneous activity.

10:30-11:00 **Mark Blumberg**. Sleep-dependent spontaneous activity self-organizes sensorimotor circuits.

11:00-11:30 Coffee Break

11:30-12:00 **Lorenzo Fabrizi**. Spontaneous activity in the neonatal human brain: source, metastability and implications for sensory processing.

12:05	Concluding remarks
12:10	Light lunch
13:00	Departure