The Brain Conferences

Cortex Evolution and Development

Preliminary Programme

24 – 27 September 2017

Moltke's Palæ, Copenhagen, Denmark

Sunday, 24 September 2017	
14:00-14:20	Arrival and registration
14:20-14:30	Welcome address from the Conference Chairs
Session 1: Units of the Cortex: Cortical Specialisations for Cognitive Functions	
14:30-15:30	Pasko Rakic, Yale School of Medicine, USA **Role of neuronal determination and migration in the evolution of cortical maps**
15:30-16:10	Troy Margrie, University College London, United Kingdom **Ego- and allocentric motion processing in mammalian sensory cortex**
16:10-16:30	Coffee break
16:30-17:10	Leah Krubitzer, University of California, Davis, USA **How does evolution build a complex brain?**
17:10-17:50	Paul Manger, University of the Witwatersrand, South Africa **Where do thalamocortical axons terminate when there is no layer IV?**
17:50-18:20	*Short talk 1 + 2 from submitted abstracts*
18:20-19:00	Alessandra Pierani, Institut Jacques Monod, France **Transient moving organizers: life and death in cortical development and evolution**
19:00-19:45	Welcome Drink & Snacks

Monday, 25 September 2017	
Session 2: The Evolution of Transcriptional Regulation: Genes, Gene Networks and Genomes	
09:00-09:40	Svante Pääbo, Max Planck Institute for Evolutionary Anthropology, Germany **Modeling Human Brain Evolution**
09:40-10:20	Nenad Sestan, Yale School of Medicince, USA **Development and Evolution of Neocortical Projection Systems**
10:20-10:50	Coffee Break and Group Picture
10:50-11:30	Evan Eichler, University of Washington School of Medicine, USA **Duplication and the Evolution of Human-specific Neurodevelopment Genes**
11:30-12:10	Ed Lein, Allen Institute for Brain Science, USA **A multimodal cell type and circuit approach to understand conserved and specialized features of human neocortex**
12:10-12:35	*Short talk 3 + 4 from submitted abstracts*
12:35-14:00	Lunch break
Session 3: Evolution of Forebrain Nerogenesis, Migration, Patterning and Specialisation	
14:00-14:40	Pierre Vanderhaeghen, Institut de Recherche Interdisciplinaire en Biologie Humaine et Moléculaire, Belgium **Deciphering species-specific properties of human corticogenesis**
14:40-15:20	Madeline Lancaster, MRC Laboratory of Molecular Biology, Cambridge Biomedical Campus, United Kingdom **Probing human neurogenesis and neuronal migration in brain organoids**
15:20-15:35	**Poster Spotlights I (9 presentations, 90 seconds each)**
15:35-17:30	Poster Session I & Afternoon Snack
17:30-18:30	Luis Puelles, University of Murcia, Spain **Do sauropsids have insular and claustrum field homologs? Antecedents of the mammalian cortical map**
18:30-19:10	Jon Kaas, Vanderbilt University, USA **The evolution of the dorsal stream of sensory-motor cortical processing in primates**
19:10-19:30	End of the day comments and discussion
19:30-21:30	Dinner at Madklubben Bistro de Luxe (covered for speakers)

Tuesday, 26 September 2017	
Session 4: Evolution and Development of Cell Types, Cell Numbers and Circuits	
09:00-09:40	Suzana Herculano-Houzel, Vanderbilt University, USA **Evolutionary generation of brain diversity: how to build a bigger cortex by tweaking just three variable**
09:40-10:20	Fernando García-Moreno, Achucarro Basque Center for Neuroscience, Spain **Divergences in neuronal migration that contributed to the evolution of the neocortex**
10:20-10:35	*Short talk 5 from submitted abstracts*
10:35-11:00	Coffee Break
11:00-11:40	Kun Zhang, University of California, San Diego, USA **Integrative analysis of single-cell transciptomes and chromatin maps in human adult**
11:40-12:20	Gilles Laurent, Max-Planck Institute for Brain Research, Germany **Single cell sequencing and circuits in reptiles**
12:20-13:50	Lunch break
13:50-15:50	Social activity/tbd
Session 5: How unique is human brain development?	
15:50-16:50	Arnold Kriegstein, University of California, San Francisco, USA **Single cell analysis of human cortical diversity, evolution, and development**
16:50-17:05	**Poster Spotlights II (9 presentations, 90 seconds each)**
17:05-19:05	Poster Session II with Afternoon Snack
19:05-19:35	End of the day: comments & group discussions
19:35-…	Free time, individual dinner

Wednesday, 27 September 2017	
Session 6: Brain Folding – Development of Connectivity	
09:00-09:40	Dean Falk, Florida State University, USA **Brain evolution, weapons, and warfare: It is two and a half minutes to midnight**
09:40-10:20	L. Mahadevan, Harvard University, USA **On the growth and form of cortical convolutions: biology, physics and mathematics**
10:20-10:35	*Short talk 6 from submitted abstracts*
10:35-11:00	Coffee Break
11:00-11:40	Zoltán Molnár, University of Oxford, United Kingdom **Evolution of cortical subplate**
11:40-11:55	*Short talk 7 from submitted abstracts*
12:00-14:00	Lunch break
14:00-14:40	Guillermina López-Bendito, Instituto de Neurociencias, Alicante, Spain **Development of the thalamocortical circuit and its role in sensory cortical areas plasticity**
14:40-15:20	Rustem Khazipov, Institut de Neurobiologie de la Méditerranée INMED, UMR901, France **Early activity patterns in the developing brain**
15:20-16:00	Linda Richards, Queensland Brain Institute, Australia **Developmental mechanisms regulating the formation of commissural tracts in the brain**
16:00-16:20	Coffee Break
16:20-17:00	Roberto Lent, Institute of Biomedical Sciences, Federal University of Rio de Janeiro, Brazil **Long-distance plasticity of the developing cerebral cortex: on connectomes and dysconnectomes**
17:00-17:45	Conclusions/Tying it all together (group discussions)
19:00-19:30	Farewell drink
19:30-22:00	Gala Dinner and Poster Awards