



CONNECTOMICS 2014

THE WIRING DIAGRAM OF THE HUMAN BRAIN

1st International Summer School

September 22-26, 2014 - Bordeaux

A new discipline of modern neuroscience, the connectomic, examines the organization and functioning of the brain across all its anatomical and functional connections, namely the connectome. The understanding and optimal use of these methods require a multidisciplinary training for neuroscience researchers. This is the challenge of "CONNECTOMICS 2014", the first international summer school offering to the scientific community a state of the art of the advanced approaches currently used in determining the wiring diagram of the human brain, to deepen or to acquire new knowledge about a domain still not taught and booming: the human brain connectome.

Scientific committee

Katrin Amunts, Institute of Neurosci. and Medicine, Jülich, Germany; **Bernard Mazoyer**, Groupe d'Imagerie Neurofonctionnelle UMR5296, Bordeaux, France; **Christophe Mulle**, Interdisciplinary Institute of Neuroscience, UMR5297, Bordeaux, France; **Tomáš Paus**, Rotman Research Institute, Baycrest Centre, Toronto, Canada; **Laurent PETIT**, Groupe d'Imagerie Neurofonctionnelle UMR5296, Bordeaux, France.

Audience

The school will welcome 50 researchers, engineers, post-docs and end-term PhD interested in the topic of the connectome.

Information and Registration

<http://connectomics2014.u-bordeaux.fr>
 deadline : 31st of July, 2014

Registration fees cover the courses, accommodation, coffee and lunch breaks.

- 500 € for researchers and engineers
- 300 € for post-docs and PhD students

Note that CONNECTOMICS 2014 is a Thematic School of the CNRS allowing no fees for personal employed by the CNRS.

Please note that the registration is mandatory to validate your application. Once your application is completed and has been evaluated, the organizing committee will let you know the final decision. If you are selected, registration process should be finalized through the payment of fee.

Program

September, Monday 22nd PM

Opening lecture
 Connectome, connectomics: Origins by Olaf SPORNS

Microscopic structural connectome

- Neural circuit analysis with Brainbow by K. MATHO
- Activity-dependent labeling of memory engrams by S. RAMIREZ
- Advanced optical techniques for brain-wide imaging of neuronal activity by R. PREVEDEL

September, Tuesday 23rd

Microscopic structural connectome

- The secrets of neuronal circuits with recombinant rabies virus by A. FRICK
- Mapping synaptic function and connectivity in cortical cells by T. MARGRIE
- Optogenetic interrogation of valence circuits by A. BEYELER

Macroscopic structural connectome

- Connectomic approaches before connectome by M. THIEBAUT de SCHOTTEN
- The do's and don'ts of diffusion MRI by A. LEEMANS
- Advances in diffusion MRI acquisition and processing by S. SOTIROPOULOS
- Tractography with tractometer by G. GIRARD

September, Wednesday 24th

Macroscopic structural connectome

- dMRI in cortical gray matter and its validation with histology by A ROEBROECK
- Tractography against dissection by S. SARUBBO
- Insight into the development and maturation of the brain by T. PAUS

White matter as transport system

- White matter as a transport system by T. PAUS
- Titled coming soon by R. PAUTLER
- Titled coming soon by G. MORFINI

Introduction to Allen Institute resources

- Advancing neuroscience with the Allen Brain Atlas by T. GILBERT

September, Thursday 25th

Intrinsic connectivity

- Studying large-scale brain networks: Electrical stimulation & neural-event-triggered fMRI by N. LOGOTHETIS
- Temporal dynamics of the resting-state signal by C. CHANG
- Graph analysis of the connectome by S. ACHARD
- Extrinsic/intrinsic modular organization of the connectome by G. DOUCET
- Modular structure of fMRI networks in resting-state by D. MEUNIER
- Relation between r-fMRI and t-fMRI connectomes by F. HOFFSTAEDTER
- Cerebral Cortex Connectomics by M. HELMSTAEDTER

September, Friday 26th AM

Databasing

- The Brain CONNECT project by Y. ASSAF
- The BIL&GIN project : Investigating asymmetries by B. MAZOYER
- Genetics of the Connectome and the ENIGMA Project by P. THOMPSON



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