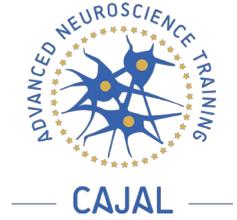


The CAJAL Advanced Neuroscience Training Programme



Course Programme 2017



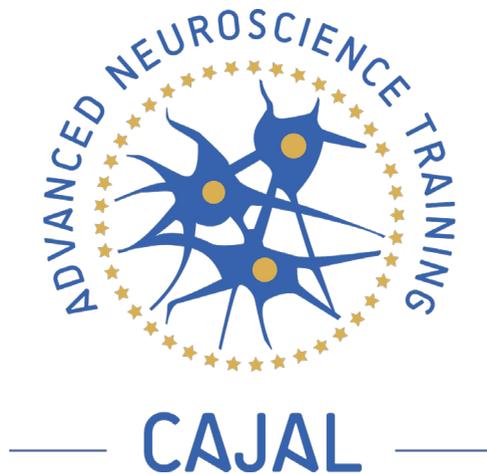
- Lectures by **renowned scientists** with methodological training sessions
- **Interactive and engaging** atmosphere
- **Experiments** within the frame of short **scientific projects**
- **Two top European facilities** in neuroscience

www.cajal-training.org

About the CAJAL Programme

The CAJAL Training Programme consists of two- or three-week, hands-on courses organised by top ranking neuroscientists.

Topics in 2017 include neural circuits, computational neuroscience, synapse biology, connectomics, ion channels.



The CAJAL Advanced Neuroscience Training Programme represents commitment by the four partner institutions FENS, IBRO, University of Bordeaux and the Champalimaud Foundation to establish a dedicated neuroscience training facility in Europe. It combines lectures by renowned scientists with methodological training sessions, by guiding the students through hands-on experiments within the frame of short scientific projects.

Interacting with neural circuits

2-22 July 2017

Course directors:

- Michael Hausser (University College London, UK)
- Menno P. Witter (Norwegian University of Science and Technology, Norway)

On-site chair:

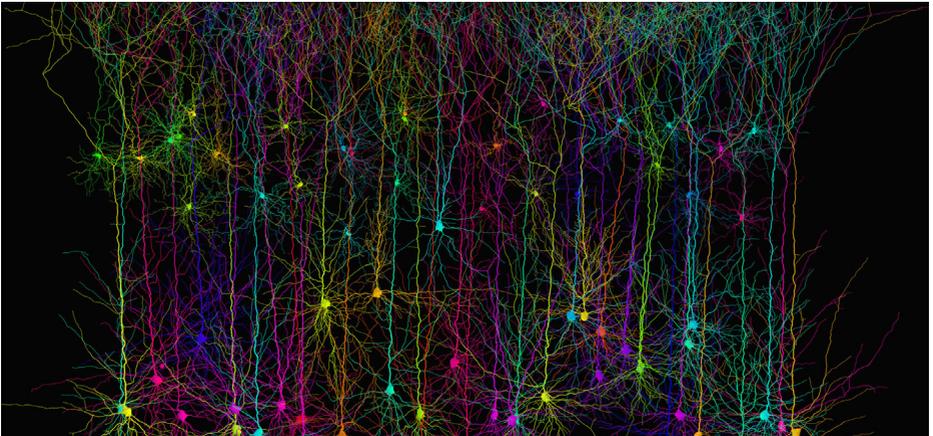
- Leopoldo Petreanu (Champalimaud Neuroscience Programme, Portugal)

Venue:

Champalimaud Centre of the Unknown, Portugal

Understanding how activity in neural circuits drives behavior is a fundamental problem in neuroscience.

This course will highlight the new anatomical, optical, genetic, electrophysiological, and pharmacogenetic approaches that are available for addressing these challenges. Students will learn the potential and limitations of these techniques, allowing them to both design and interpret experiments correctly.



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Advanced Techniques for Synapse Biology

3-23 July 2017

Course directors:

- Monica Di Luca (University of Milano, Italy)

On-site chairs:

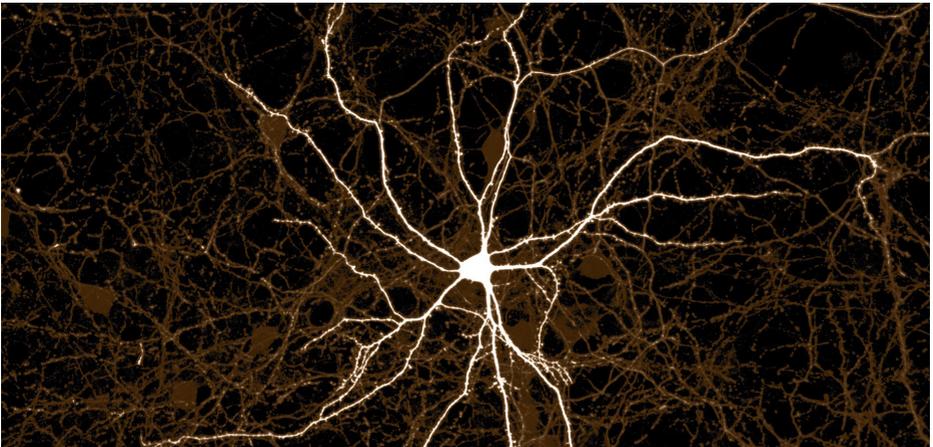
- Nathalie Sans (University of Bordeaux, France)
- Fabrizio Gardoni (University of Milano, Italy)

Venue:

Bordeaux Neurocampus, France

Synapses are the major sites of information processing in the brain. The study of the molecular mechanisms of synaptic function and plasticity are the key to understanding of how the brain works and what goes wrong in brain disease. The advanced course will expose students to state-of-art techniques for molecular imaging and functional methodologies, through direct hands-on experiments.

This course is organised in partnership with The Brain Prize



Cajal Course in Computational Neuroscience

6 – 26 August 2017

Course directors:

- Gilles Laurent (MPI Brain Research, Frankfurt, Germany)
- Jakob Macke (Research Center Caesar, MPI Bonn, Germany)

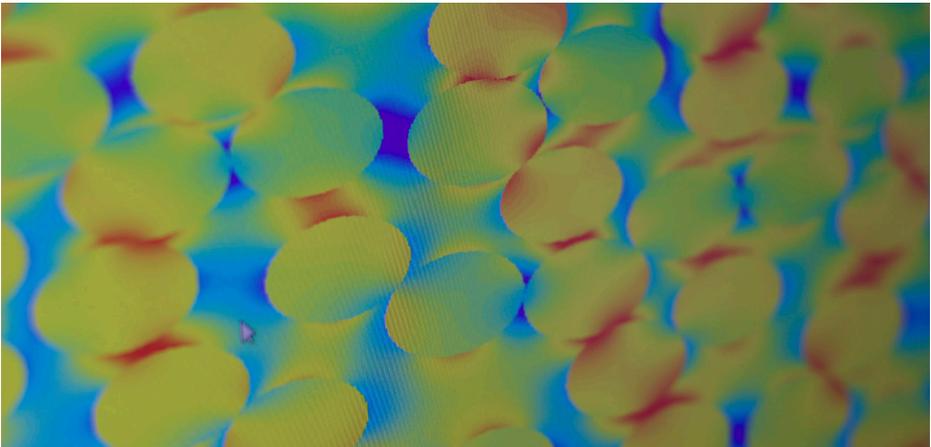
On-site chair:

- Christian Machens (Champalimaud Neuroscience Programme, Portugal)

Venue:

Champalimaud Centre for the Unknown, Portugal

Computational Neuroscience is a rapidly evolving field whose methods and techniques are critical for understanding and modeling the brain, and also for designing and interpreting experiments. This school teaches the central ideas, methods, and practice of modern computational neuroscience. Our mission with the course is to train the future generation of both computational and experimental neuroscientists, and to foster theory-driven experimental research.



www.cajal-training.org

Ion channels in healthy and diseased brains

4-22 September 2017

Course directors:

- Florian Lesage (CNRS, Sophia Antipolis, France)
- Teresa Giraldez (University of La Laguna, Spain)
- Sven Meuth (University of Münster, Germany)

On-site chair:

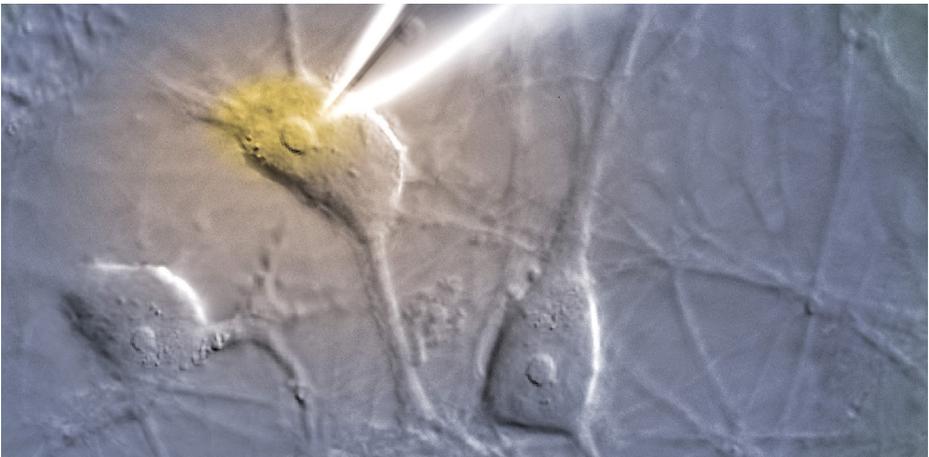
- Eric Hosy (University of Bordeaux, France)

Venue:

Bordeaux Neurocampus, France

Ion channels play a major role in neuronal excitability. Diseases, termed channelopathies, are related to inherited or acquired dysfunctions of ion channels: epilepsy, migraine, ataxia and deafness.

This 3-week course is a practical “hands-on” introduction to advanced methods in ion channel recording and analysis and will cover sufficient background such that all participants will be able to establish these techniques in their home laboratories.



Connectomics - from the synaptic level in mice to the entire brain in humans

2 - 21 October 2017

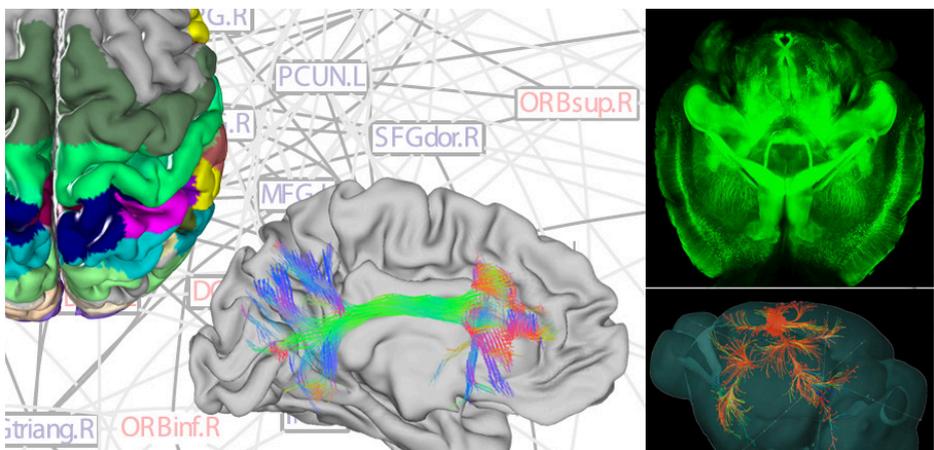
Course directors:

- Olaf Sporns, Indiana University, Bloomington, USA
- Laurent Petit, CNRS, IMN, Bordeaux, France
- Andreas Frick, INSERM, Neurocentre Magendie, Bordeaux, France

Venue:

Bordeaux Neurocampus, France

The Cajal School in Connectomics is an intensive three-week course that guides participants through the theory and practice of state-of-the-art methods to address pertinent questions in the field of structural/functional connectomics from mice to man. This goal will be achieved through a unique balance of lectures from world-wide experts in their respective fields to experimental demonstrations and hands-on laboratory work in small groups.



www.cajal-training.org

What they say about the CAJAL Programme

“IBRO is dedicated to advancing neuroscience through the teaching, training and mentoring of young scientists in centres of research excellence. The CAJAL programme is our regional commitment to building European brain research and elevating its visibility and impact.”

Larry Swanson, IBRO Secretary-General and Chair of the CAJAL Steering Committee 2016

“The Cajal programme provides exceptional training in superb scientific environments under the guidance of internationally renowned experts. FENS is dedicated to supporting this pan-European initiative to secure the future excellence of neuroscience research.”

Barry J Everitt, FENS President

“The CAJAL programme is a great opportunity for me to learn new things and try out new ideas. It is just a great environment for science.”

Adam Kampff, Behaviour of Neural Systems 2016 course director

“The course was an amazing opportunity to get to know and really use advanced techniques with the guidance of different professors and tutors. The course was very intense and really hands-on!”

Behaviour of Neural Systems 2016 student

For more information contact: cajal@fens.org

Follow FENS and IBRO on social media



The CAJAL Advanced Neuroscience Training Programme represents a commitment by four partner institutions - FENS, IBRO, the University of Bordeaux and the Champalimaud Foundation - to establish dedicated neuroscience training facilities in Europe.

