

Bordeaux Summer School

Cardiac electrophysiology

June 29th – July 3rd, 2020



In a nutshell...

This summer school is dedicated to the study of fundamental cardiac electrophysiology. It is open to international science and medical students, as well as to more experienced researchers wishing to improve their background knowledge.

During the five day session, the course offers intensive theoretical and practical sessions concerning all aspects of cardiac electrophysiology, from the molecular level to pre-clinical investigations and patient care.

This summer school, which gathered 42 attendees and over 20 international speakers for its first edition, provides a unique opportunity for participants to meet world leading experts and to learn about state-of-the-art techniques.



Expertise upon completion

A certificate of participation will be awarded to students upon completion of the course.

> Program*

Day 1: June 29th

- > Introduction to cardiac anatomy
- > Cardiac neuromodulation
- > Cardiac hemodynamics
- > Introduction to cellular electrophysiology: the action potential and excitation-contraction coupling

Day 2: June 30th

- > Atrial fibrillation
- > Ventricular fibrillation and sudden cardiac death
- > Heart failure and electromechanical remodelling
- > Mathematical modelling and simulations

Day 3: July 1st

- > Experimental methods in cardiac electrophysiology: from single cells to the whole heart
 - > The patch-clamp technique
 - > Microspectrofluorimetry and confocal microscopy
 - > Optical mapping of cardiac electrical activity
 - > Working heart model and evaluation of cardiac bio-energetics
- > Experimental laboratory demonstrations

Day 4: July 2nd

- > Introduction to cardiac electrophysiology
- > Cardiac implantable devices
- > Basics in signal processing for cardiac mapping
- > Experimental and clinical applications of signal processing techniques

Day 5: July 3rd

- > Basics of Magnetic Resonance Imaging (MRI)
- > High-field MRI
- > Advanced cardiac MRI techniques for clinical applications
- > Micro CT imaging of the heart
- > Interventional MRI
- > Cardiac imaging at the hospital

*Program may be subject to change.

A panel of experts

Lecturers include leading clinicians and researchers from different areas of cardiac electrophysiology.

- › **D. Benoist:** PhD, University of Bordeaux, France
- › **O. Bernus:** PhD, University of Bordeaux, France
- › **P. Bordachar:** MD-PhD, Bordeaux University Hospital, University of Bordeaux, France
- › **F. Brette:** PhD, University of Bordeaux, France
- › **J.-A. Cabrera Rodriguez:** MD-PhD, Hospital Universitario Quirónsalud, Madrid, Spain (to be confirmed)
- › **P.-S. Chen:** MD-PhD, Editor-in-chief HeartRhythm, Indiana University, USA
- › **H. Cochet:** MD-PhD, Bordeaux University Hospital, University of Bordeaux, France
- › **R. Coronel:** MD-PhD, Academic Medical Center Amsterdam, the Netherlands (to be confirmed)
- › **R. Dubois:** PhD, Researcher, University of Bordeaux, France
- › **J. Duchateau:** MD-PhD, Bordeaux University Hospital, University of Bordeaux, France
- › **K. Haliot:** doctoral student, Electrophysiology and Heart Modeling Institute (Liryc), France
- › **P. Jais:** MD-PhD, Bordeaux University Hospital, University of Bordeaux, France
- › **N. Linton:** MD-PhD, Imperial College London, United-Kingdom (to be confirmed)
- › **J. Lumens:** PhD, CARIM University of Maastricht, the Netherlands (to be confirmed)
- › **M. Meo:** PhD, University of Bordeaux, France
- › **P. Pasdois:** PhD, University of Bordeaux, France
- › **M. Potse:** PhD, University of Bordeaux, France
- › **B. Quesson:** PhD, University of Bordeaux, France
- › **M. Stuber:** PhD, University of Lausanne, Switzerland (to be confirmed)
- › **R. Waton:** PhD, University of Bordeaux, France

WHY BORDEAUX?

Bordeaux boasts a long tradition of excellence in cardiac electrophysiology, in particular with the creation of Liryc – an Electrophysiology and Heart Modeling Institute, led by Prof. Michel Haissaguerre.

Liryc is a research, treatment, innovation and teaching institute. Its strength lies in its multidisciplinary scientific expertise and close collaboration with world leading clinical teams.

Offering unique experimental platforms with state-of-the-art equipment, the teams at Liryc develop novel diagnostic tools, medical devices and innovative therapies.

The institute has made major scientific contributions in atrial and ventricular fibrillation as well as cardiac resynchronization, which have been disseminated across the world.

As part of its mission to share knowledge gained from research and clinical practice, Liryc is committed to university training in cardiac electrophysiology in collaboration with the University of Bordeaux.



This summer school is fantastic to better understand how experimental and clinical connect."

"Cardiac electrophysiology" Bordeaux Summer School participant from the 2019 program

Practical information

Dates: June 29th – July 3rd, 2020.

N° participants: 30

Language: classes are conducted in English.

Location: classes take place at LIRYC – Electrophysiology and Heart Modeling Institute – Avenue du Haut Lévêque, 33600 Pessac, France.

Participant profile: the course is tailored to graduate and doctoral science and medical students, as well as to more experienced researchers wishing to improve their background in the field of cardiac electrophysiology.

Applications: to be completed online via our website: bss-cardiac-electrophysiology.u-bordeaux.fr

A CV and cover letter will be necessary.

Deadline: March 31st, 2020.

Participation fee: 500€ per participant incl. VAT. Lodging, partial boarding and social program costs will be covered for all participants. Travelling fees remain at the participants' expense.

Grants: a limited number of grants will be awarded to participants upon request.

More information:

bss-cardiac-electrophysiology.u-bordeaux.fr