The focus of this summer institute is to integrate empirical and theoretical knowledge across disciplines with the aim to understand in different contexts – from extensive data analyses and modeling approaches to clinical practice – how diverse physiological systems and subsystems dynamically interact to produce health and disease. This will be an interactive event with lectures ranging from physics, applied mathematics and biomedical engineering to neuroscience, physiology and clinical medicine, covering a range of physiologic systems from the cellular to the organ level, and will discuss the challenges, current frontiers and future developments in the emerging field of Network Physiology. The institute will address a diverse audience of graduate students, postdocs, research scientists and faculty across a broad range of disciplines and fields, and will provide opportunities for the researchers to exchange new ideas and viewpoints, forge new collaborations and train the next generation of young scientists.

Invited Speakers

György Buzsáki
New York University, USA

Tjeerd Boonstra
University of New South Wales, Australia

Barbara E. Corkey
Boston University, USA

Marina de Tommaso
Bari University, Italy

Brandon Foreman
University of Cincinnati, USA

Jürgen Kurths
Humboldt University, Germany

Klaus Lehnertz
Bonn University, Germany

Fabrizio Lombardi
Boston University, USA

Hagen Malberg
Dresden University of Technology, Germany

Daniele Marinazzo
University of Ghent, Belgium

J. Randall Moorman
University of Virginia, USA

Ulrich Parlitz
Max Planck Institute for Dynamics and Self-Organization, Germany

Louis M. Pecora
Naval Research Laboratory, USA

Arkady S. Pikovsky
University of Potsdam, Germany

Michael G. Rosenblum
University of Potsdam, Germany

Andrei Ruckenstein
Boston University, USA

Michael F. Shlesinger
Office of Naval Research, USA

Olga Sosnovtseva
University of Copenhagen, Denmark

Ruedi Stoop
ETH Zürich, Switzerland

Sebastiano Stramaglia
University of Bari, Italy

Béla Suki
Boston University, USA

Robert J. Thomas
Harvard Medical School, USA

B. Taylor Thompson
Harvard Medical School, USA

Stefan Thurner
Medical University of Vienna, Austria

Andreas Voss
University of Applied Sciences Jena, Germany

Xiyun Zhang
Boston University, USA