

Workshops Current trends in Biomedicine 2010

Ion Channels and Diseases of the Nervous System

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de Andalucía

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Scope

Ion channels are intrinsic membrane proteins that regulate the flux of ions across cell membranes. Voltage- and ligand-gated varieties play a central role in the physiology of excitable cells; in the nervous system, they are key for spike firing, rapid information transfer, homeostatic control of excitability, and activate and modulate signaling pathways critical for learning and memory, neural circuit development, and basic cell survival. In addition to regulating ion flux, ion channels act as dynamic scaffolds for intracellular protein networks. These networks regulate the kinetic and signaling properties of the mature channel, but are also critical for intracellular trafficking through the secretory pathway during channel biogenesis and for controlling regulatory steps subsequent to insertion in the plasma membrane such as focal clustering at postsynaptic densities and other designated membrane sites, and local retrieval and recycling. Mutations in ion channel subunits and throughout their associated protein complexes have been associated with a number of diseases of the nervous system (collectively known as "channelopathies"), including epilepsy, ataxias, migraine, autism spectrum disorders, Parkinson's and Alzheimer's disease.

This workshop will bring together internationally recognized researchers in the fields of ion channel function, trafficking, and regulation to discuss current and future trends in ion channel research. A major emphasis will be on recent advances in our knowledge of i) the molecular composition, structure, and regulation of ion channel scaffolding complexes, ii) the mechanisms regulating channel trafficking and membrane targeting, and iii) their involvement in the pathophysiology of human disease.

Format of the Workshop

The workshop will bring together 17 speakers and a maximum of 33-35 participants, to form a group of around 50 people. The scientific programme will start in the morning of Tuesday, November 2nd, and will end around noon on Thursday, November 4th. Ample time for informal discussion will be reserved. Participants will be invited to present a poster.

Venue of the Workshop

The workshop will be held in Baeza, at the "Sede Antonio Machado", a XVII century building turned into a Conference Centre of the Universidad Internacional de Andalucía (UNIA). This Seat includes a recently restored residence, where participants will be accommodated. Baeza is a World Historic Heritage town, renowned for its Renaissance and Gothic buildings.

Organized by:

Ricardo Dolmetsch
Stanford University. Stanford, USA.

Isabel Pérez-Otaño
Centro de Investigación Médica Aplicada (CIMA). Pamplona, Spain.

Álvaro Villarroel
CSIC-UPV/EHU, Universidad del País Vasco. Leioa (Vizcaya), Spain.

Speakers

David Attwell. Department of Neuroscience, Physiology and Pharmacology, University College London. London, UK.

Daniel Choquet. Laboratoire Physiologie Cellulaire de la Synapse, CNRS, and University of Bordeaux. Bordeaux, France.

Ricardo Dolmetsch. Department of Neurobiology, Stanford University School of Medicine. Stanford, CA, USA.

José A. Esteban. Centro de Biología Molecular "Severo Ochoa", CSIC/Universidad Autónoma de Madrid. Madrid, Spain.

Antonio Ferrer-Montiel. Instituto de Biología Molecular y Celular, Universidad Miguel Hernández. Elche (Alicante), Spain.

Seth G.N. Grant. The Wellcome Trust Sanger Institute. Hinxton, UK.

Thomas J. Jentsch. Leibniz-Institut für Molekulare Pharmakologie (FMP) and Max-Delbrück-Centrum für Molekulare Medizin (MDC). Berlin, Germany.

Juan Lerma. Instituto de Neurociencias de Alicante, CSIC-UMH. Alicante, Spain.

Daniel L. Minor Jr. Cardiovascular Research Institute, University of California, San Francisco. San Francisco, CA, USA.

Isabel Pérez-Otaño. Cellular Neurobiology Laboratory, Departamento de Neurociencias, Centro de Investigación Médica Aplicada (CIMA), Universidad de Navarra. Pamplona, Spain.

Blanche Schwappach. Faculty of Life Sciences, University of Manchester. Manchester, UK.

Peter H. Seeburg. Department of Molecular Neurobiology, Max-Planck-Institute for Medical Research. Heidelberg, Germany.

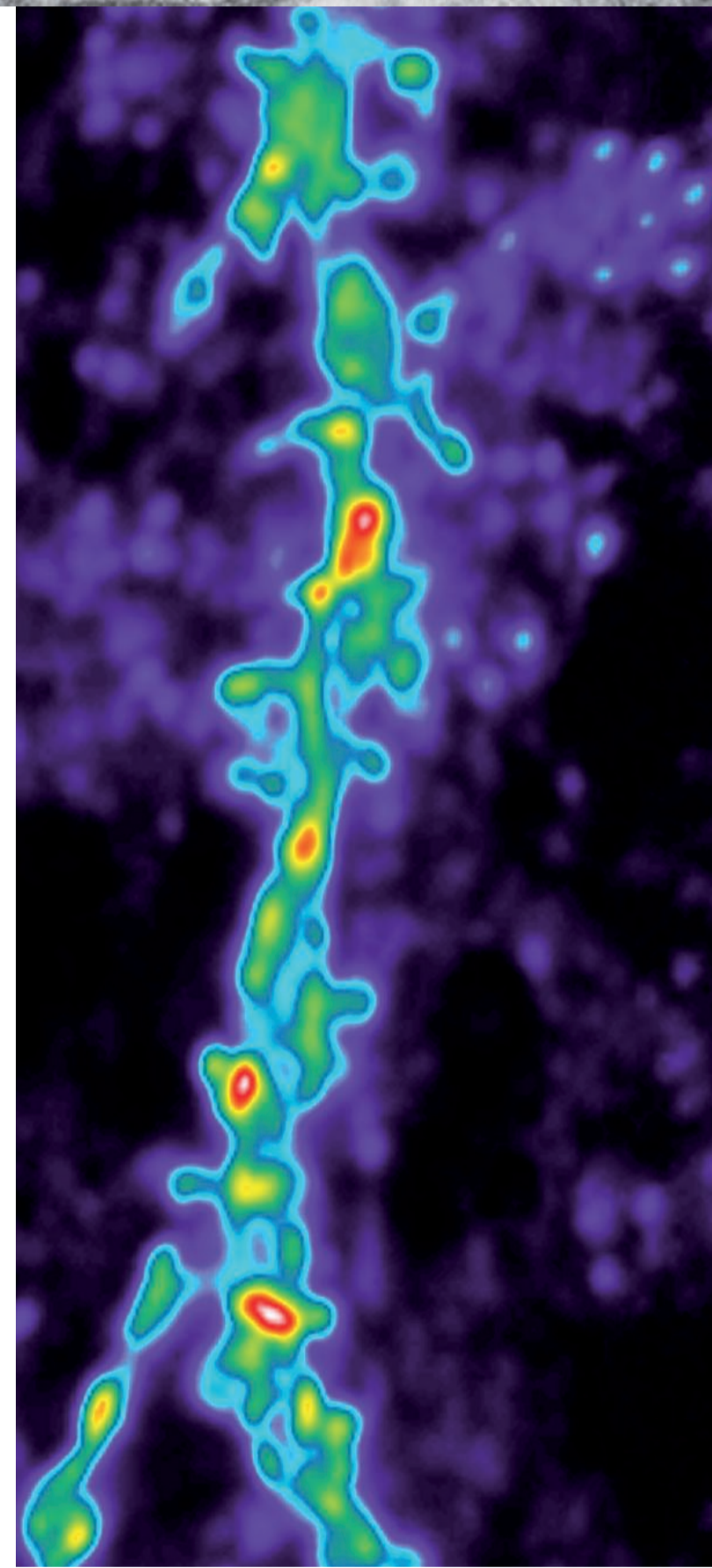
Paul A. Slesinger. Peptide Biology Laboratory, The Salk Institute for Biological Studies. La Jolla, CA, USA.

D. James Surmeier. Department of Physiology, Feinberg School of Medicine, Northwestern University. Chicago, IL, USA.

Richard W. Tsien. Department of Molecular and Cellular Physiology, School of Medicine, Stanford University. Stanford, CA, USA.

Álvaro Villarroel. Unidad de Biofísica, CSIC-UPV/EHU, Universidad del País Vasco. Leioa (Vizcaya), Spain.

David T. Yue. Calcium Signals Laboratory, Departments of Biomedical Engineering and Neuroscience, Johns Hopkins University School of Medicine. Baltimore, MD, USA.



Baeza, Spain
2nd-4th November 2010

Deadline:
3rd September 2010

Venue:

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Universidad Internacional de Andalucía
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Workshop coordinator:

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More information and application:

<http://www.unia.es/biomedicine>