

ASB Plenary Lecture

Dr Peter Tieleman, University of Calgary, Calgary, Canada
“Pores, Channels and Transporters: Computational Studies of Membrane Transport”

AuPS Plenary Lectures

Prof. Francisco Bezanilla, University of California, Los Angeles, U.S.A.
“Voltage-gating in Ion Channels”

Prof. Nigel Unwin, MRC Laboratory of Molecular Biology, Cambridge, U.K.
“Structure and Gating Mechanism of the Nicotinic Acetylcholine Receptor”

AuPS Invited Lecture

Prof. Angela Dulhunty, Australian National University, Canberra, Australia
“Excitation-Contraction Coupling from 1969 to 2005”

ASB Robertson Lecture

Lecturer TBA

ASB Symposia

(1) “Ion Channel Gating”

Chair: Shin-Ho Chung

09:00 – 09:30

Pancho Bezanilla, University of California, Los Angeles, California
“The Role of Protein Domains in Voltage Gating”

09:30 – 10:00

Stephen Korn, University of Connecticut, Storrs, Connecticut
"Modulation of Potassium Channel Conformation and Function by Permeating Ions"

10:00 – 10:20

Boris Martinac, University of Queensland, Brisbane
“The Gating of Mechano-Sensitive Ion Channels”

10:20 - 10:40

Ben Corry, University of Western Australia, Perth
“The Mechanism of Fast Gating in ClC Chloride Channels”

10:40 – 11:00

Joe Lynch, University of Queensland, Brisbane
“Conformational Changes Associated with Glycine Receptor Activation”

(2) "Membrane Protein Structure and Interactions"

Chair: Frances Separovic

08:45 – 09:25

Sarah Keller, University of Washington, Seattle, Washington

"Seeing Spots: Miscibility Transitions in Lipid/Cholesterol Membranes"

09:25 – 09:50

Mibel Aguilar, Monash University, Melbourne, Victoria

"Role of the Plasma Membrane in Amyloid Formation and Toxicity"

09:50 – 10:15

Louise Brown, Macquarie University, Sydney

"Are CLICs Really Ion Channels? - Exploring the Membrane Structure"

10:15 – 10:45

Leann Tilley, La Trobe University, Melbourne, Victoria

"A Comparison of Fluorescence Recovery after Photobleaching (FRAP) and Fluorescence Correlation Spectroscopy (FCS) for Measuring Dynamics of Membrane-Associated Proteins".

(3) "Function and Regulation of Ion Transport Membrane Proteins"

Chair: Ron Clarke

11:00 – 11:20

Nigel Turner, Garvan Institute, University of New South Wales, Sydney

"Membranes as Pacemakers of Metabolism"

11:20 – 11:40

Paul Else, University of Wollongong

"Membranes as Pacemakers of Metabolism"

11:40 – 12:10

Ernst Bamberg, Max-Planck-Institute of Biophysics, Frankfurt, Germany

"Light-gated ion channels and conformational dynamics of ion pumps"

12:10 – 12:35

Helge Rasmussen, University of Sydney, Sydney

"Mechanisms of Regulation of the Na⁺,K⁺-ATPase"

12:35 – 13:00

Jacqui Gulbis, WEHI, Melbourne, Victoria

"The Transition Between Gating States in Inward Rectifier K⁺ Channels"

AuPS Symposia

(1) “Physiology Teaching in the 21st Century: Trends, Challenges and Innovations”

Chairs: Kay Colthorpe, Hardy Ernst

08:45 – 09:15

Ann Sefton, University of Sydney, Sydney

“Challenges Facing Physiology Educators in the 21st Century”

09:15 – 09:45

Robert Kemm, Department of Physiology, University of Melbourne, Melbourne

“Research-Led Learning in Physiology”

09:45 – 10:15

Jeff Schwartz, University of Adelaide, Adelaide

“Using PBL to Teach Physiological Research ”

10:15 – 10:45

Catherine Dallemagne, Queensland University of Technology, Brisbane

“Improving Learning Outcomes for Students in Clinical Physiology”

(2) “Epithelial Transport of Ions and Metabolites”

Chairs: Stefan Bröer, David Cook, Daniel Markovich

11:00 – 11:30

Hannelore Daniel, Technical University Munich, Munich, Germany

“Molecular Physiology of peptide transporters: from bacteria to mammals”

11:30 – 11:52

Phil Poronnik, University of Queensland, Brisbane

“Regulation of renal albumin uptake by PDZ scaffolds”

11:52 – 12:15

Paul Dawson, University of Queensland, Brisbane

“Sulfate ions in mammalian physiology: lessons from sulfate transporter knock-out mice”

12:15 – 12:37

Anuwat Dinudom, University of Sydney, Sydney

“Regulation of Epithelial Sodium Channels”

12:37 – 13:00

Stefan Broer, Australian National University, Canberra

“Disorders of Neutral Amino Acid Resorption in Epithelial Cells”

(3) “Membrane Associated Proteins that Regulate Muscle Contraction”

Chair: Angela Dulhunty

11:15 – 12:00

Kurt Beam, Colorado State University, Fort Collins, Colorado

“From DHPR to RyR and Back Again: What Lies Along the Way?”

12:00 – 12:25

Derek Laver - University of New Castle, New Castle

“Regulation of Muscle RyRs by Components of the Cytoplasm and SR Lumen”

12:25 – 12:50

Marco Casaroto, Australian National University, Canberra

“Biophysical Studies of the Dihydropyridine Receptor II-III Loop: A Structural Perspective”

12:50 – 13:15

Grigori Rychkov, University of Adelaide, Adelaide

“ClC-1 Chloride Channel - Matching its Properties to a Role in Skeletal Muscle”

(4) “Functional Roles of Potassium Channels in the Vasculature”

Chair: Mike Hill

09:00 – 09:05

Mike Hill

“Introduction and Overview”

09:05 – 09:40

Chris Garland, University of Bath, Bath, England

"Endothelial-Dependent Vasodilatation: Fundamental Role of SKCa and IKCa"

09:40 – 10:00

Chris Sobey, University of Melbourne, Melbourne, Victoria

"Functional Effects of Vascular Kir Channels"

10:00 – 10:20

Barbara Kemp-Harper, Monash University, Melbourne, Victoria

"KV as a Target for Nitroxyl Anion-Mediated Vasodilatation"

10:20 – 10:40

Tim Murphy, University of New South Wales, Sydney

"Smooth Muscle BKCa and its Interaction with Arteriolar Myogenic Tone"

10:40 – 11:00

Chris Trigg, RMIT University, Melbourne, Victoria

"Potassium Channels in Vascular Dysfunction"

(5) “Regulation of Membrane Transport”

Chair: David Adams

11:15 – 11:45

Owen Hamill, UTMB, Galveston, Texas, U.S.A.
“TRPC Mechanosensitive Ion Channels”

11:45 – 12:15

Eric Honore, CNRS, Sophia Antipolis, France
“2P Domain K Channels”

12:15 – 12:45

Masahiro Sokabe, Nagoya University School of Medicine, Nagoya, Japan
"A variety of cellular mechanotransduction"

12:45 – 13:15

Amit Chattopadhyay, Centre for Cellular & Molecular Biology, Hyderabad, India
“Role of Tryptophan Residues in Ion Channel Function”

Designated Oral Communication Sessions

“Skeletal Muscle Regulation: From Molecular Mechanism to Physiology”

Organizer: Brett Cromer

Graham Lamb

Mike McKenna

Simeon Cairns

David Allen

Brett Cromer

“Ligand-Gated Ion Channels”

Organizer: Louise Tierney