

Na,K-ATPase & Related Cation Pumps: Structures, Mechanisms, & Diseases

SCHEDULE OF EVENTS

Organizers: David Gadsby, Rockefeller University
Jack Kaplan, University of Illinois at Chicago
Jerry Lingrel, University of Cincinnati Medical School

September 6-11, 2005, Marine Biological Laboratory, Woods Hole, Massachusetts

Wednesday, September 7

Symposium Session I: Atomic structure of cation pumps

Paul De Weer, Chair (University of Pennsylvania Medical School, USA) - Introductory remarks
Yuji Sugita (University of Tokyo, Japan) SR Ca-ATPase atomic structure and molecular dynamics simulations
Jesper Møller (University of Aarhus, Denmark) Structure and mechanism of SR Ca-ATPase
Steven Karlish (Weizmann Institute, Israel) Towards Na,K-ATPase structure

Symposium Session II: Cation binding sites

Jean-Daniel Horisberger, Chair (University of Lausanne, Switzerland) - Introductory remarks
Peter Jørgensen (University of Copenhagen, Denmark) Binding sites for Mg-ATP, and Na and K ions, in Na,K-ATPase
José Argüello (Worcester Polytechnic Institute, USA) Heavy metal binding sites in P-IB-type ATPases
Hans-Jürgen Apell (University of Konstanz, Germany) Binding sites and ion transport in P-type ATPases
Pablo Artigas (Rockefeller University, USA) Na,K-ATPase ion translocation pathway

Symposium Session III: Ion transport mechanisms

Luis Beaugé, Chair (Instituto M y M Ferreira, Argentina) - Introductory remarks
Giuseppe Inesi (University of Maryland School of Medicine, USA) Substrate, product, and gating in SR Ca-ATPase
Jens Peter Andersen (University of Aarhus, Denmark) Rapid kinetics, phosphoenzyme, and SR Ca-ATPase mechanism

Symposium Session IV: Cation pump subunit interactions

Kazuya Taniguchi, Chair (Hokkaido University, Japan) - Introductory remarks
Ernst Bamberg (MPI Biophysics, Frankfurt, Germany) Subunit conformational dynamics of P-type ATPases
Jack Kaplan (University of Illinois at Chicago, USA) Subunit interactions and trafficking
Ayyappan Rajasekaran (University of California Los Angeles, USA) Na,K-ATPase in epithelial cell polarization

Thursday, September 8

Symposium Session V: Inherited dysfunction of cation pumps

Carolyn Slayman, Chair (Yale University School of Medicine, USA) - Introductory remarks
Katby Sweadner (Massachusetts General Hospital, USA) Na,K-ATPase alpha subunit mutations in neurological disease
Rhoda Blostein (McGill University, Canada) Functional effects of Na,K-ATPase disease-associated mutations

Amy Moseley (University of Cincinnati Medical School, USA) Behavioral abnormalities in Na,K-ATPase haploinsufficient mice

Svetlana Lutsenko (Oregon Health and Science University, USA) Human Cu-ATPases in Menkes and Wilson diseases

Symposium Session VI: Late-breaking science

Speakers to be determined

Friday, September 9

Symposium Session VII: Regulation of cation pumps

FXYP proteins

Michael Caplan, Chair (Yale University School of Medicine, USA) - Introductory remarks

Kathi Geering (University of Lausanne, Switzerland) Na,K-ATPase regulation by FXYP proteins

Flemming Cornelius (University of Aarhus, Denmark) FXYP/alpha interactions in Na,K-ATPase regulation

Haim Garty (Weizmann Institute, Israel) Na,K-ATPase regulation by FXYP proteins

Phospholamban and sarcolipin

Don Bers, Chair (Loyola University, USA) - Introductory remarks

David MacLennan (University of Toronto, Canada) SR Ca-ATPase regulation by phospholamban and sarcolipin

David Thomas (University of Minnesota, USA) Molecular dynamics of SR Ca-ATPase regulation by phospholamban

Specific P-type ATPase inhibitors

Robert Farley, Chair (University of Southern California, USA) - Introductory remarks

Jan Joep De Pont (Nijmegen Center for Molecular Life Sciences, Holland) Ouabain binding sites in Na,K-ATPase

George Sachs (University of California Los Angeles, USA) Inhibitor binding sites in H,K-ATPase

Receptor-mediated regulation

Carlos Pedemonte, Chair (University of Houston, USA) - Introductory remarks

Alejandro Bertorello (Karolinska Institute, Sweden) GPCR signals and intracellular traffic of Na,K-ATPase

Saturday, September 10

Symposium Session VIII: Physiological roles of cation pumps

Mordecai Blaustein, Chair (University of Maryland, USA) - Introductory remarks

Jerry Lingrel (University of Cincinnati Medical School, USA) Gene targeting of Na,K-ATPase alpha isoforms

Gary Shull (University of Cincinnati Medical School, USA) Gene targeting of Ca-transporting ATPases

J. Iasba Sznajder (University of Chicago, USA) Na,K-ATPase in lung edema clearance

There will be two formal poster-presentation sessions, one on Thursday afternoon and the other on Friday afternoon. But posters will be available for viewing and informal discussion during the entire meeting, those of the first session throughout Wednesday and Thursday, and those of the second session throughout Friday and Saturday. The organizers expect to make adjustments to the scientific program, including selection of topics and speakers for the late-breaking science session, after the receipt of abstracts in April.