

EPITHELIAL TRANSPORT GROUP

NEWSLETTER

Fall, 2002

MESSAGE FROM THE CHAIR

EB 2003 promises to be an exciting meeting. Our group is sponsoring a symposium organized by Lisa Satlin and Gerard Apodaca entitled "Flow/Stretch-Regulated Membrane and Ion Transport in Epithelia." Invited speakers include Lisa Satlin, Gerard Apodaca, Sheldon Weinbaum, Mike Welsh and Eric Schweibert. The featured topics sessions that we are sponsoring at EB03 include "Epithelial Anion Channels: Structure, Form, Function," chaired by Catherine Fuller and Kevin Kirk; and "Structure and Regulation of Epithelial Na⁺ and K⁺ Channels," chaired by Douglas Eaton and Thomas Kleyman. Christine Bear and Rebecca Hughey will be presenting invited lectures at these sessions. Our featured topics sessions offer a wonderful opportunity for investigators to present abstracts in a more formal environment, and I encourage investigators with research interests in common with our featured topics sessions to submit abstracts to EB03. You are also encouraged to submit abstracts to one of the seventeen ETG-sponsored Abstract Topic Categories. The ETG is sponsoring, for EB03, awards for the best abstracts submitted by a Pre-Doctoral Trainee and by a Post-Doctoral Trainee to an ETG-sponsored Abstract Topic Category.

Cathy Fuller and I are serving as members of the APS programming committee. Cathy is serving as vice chair of the ETG and Michael Duffey is serving as the editor of our newsletter. Klaus Beyenbach is developing a new set of by-laws for the ETG. We will soon be seeking new members for the ETG steering Committee. If you are interested in serving on the ETG Steering Committee, please contact either Cathy Fuller or Tom Kleyman

I encourage all members of the ETG to submit proposals for symposia or featured topics for EB04. Your proposals / suggestions should be sent to Cathy Fuller (fuller@physiology.uab.edu) or to Tom Kleyman (kleyman@pitt.edu). I look forward to seeing you in San Diego, particularly at the symposium and the featured topics sessions sponsored by the Epithelial Transport Group.

Cheers,

Tom Kleyman

EB 2003 EVENTS OF INTEREST TO THE ETG

Experimental Biology 2003 will take place in San Diego, from April 12-16. Participating societies include APS, ASPET (Pharmacology and Experimental Therapeutics), ASIP (Investigative Pathology), ASNS (Nutritional Sciences), AAI (Immunology), AAA (Anatomy), and ASBMB (Biochemistry and Molecular Biology).

Remember, the deadline for abstract submission is November 13, 2002. If you still have not received the EB 2003 Call for Abstracts book, contact the APS Meetings Department at: voice: 301-634-7967, FAX: 301-634-7241, email: meetings@the-aps.org

The ETG Topic Categories found in the EB 2003 Call for Abstracts book that you may select for your abstract submission are:

Active transport pumps in epithelia
Bicarbonate transport in epithelia
Cell volume regulation in epithelia
Cotransporters and exchangers in epithelia
ENaC, epithelial Na⁺ channels
Epithelial Cl⁻ channels/CFTR: structure, function and regulation
Epithelial diseases: defects in transcellular and paracellular pathways
Epithelial genomics and proteomics
Epithelial imaging
Epithelial polarity, differentiation and protein trafficking
Epithelial transport of multivalent cations and anions
Molecular biology and structure of epithelial transporters and channels
Protein-protein and protein-lipid interactions in epithelia
Second messengers and signaling in epithelia
Tight junctions and gap junctions in epithelia: structure and regulation
Transgenic animals, cell and organ cultures, and model systems
Water channels: structure, function and trafficking

Featured Topics. Based on the quality and quantity of the submissions, selected abstracts may be programmed into an oral *featured topics* session. Abstracts chosen for these sessions will be presented twice: as a poster and in an oral session. Featured Topics sessions are similar to *minisymposia* in that they are pre-formed (prior to the mailing of the Call for Papers) oral sessions including a session title, chairperson and not more than two *featured presenters*. All other presentations are selected from the submitted abstracts. Featured presenters, or invited speakers, may present work not represented by a submitted abstract. Abstract authors choose the preferred *featured topic* Topic Category from the Call for Papers as an indication that they are willing to present their research in both an oral and poster format. The ETG will sponsor two Featured Topics sessions (described below): “Epithelial Anion Channels: Structure, Form, Function”, and “Structure and Regulation of Epithelial Na⁺ and K⁺ Channels”.

APS Abstracts Received For Last Year's EB 2002. Here is how we compared last year at EB 2002 to some other sections in the numbers of abstracts received:

Central Nervous System Section, 86

Endocrinology and Metabolism Section, 96

Epithelial Transport Group, 87

Gastrointestinal Section, 58

Neural Control and Autonomic Regulation Section, 124

Renal Physiology Section, 126

Water & Electrolyte Homeostasis Section, 87

Program Sampling. Once again, the representatives of the Epithelial Transport Group, the Renal Physiology Section, the Cell and Molecular Physiology Section, the Comparative Physiology Section, Gastrointestinal Section, Physiological Genomics Group, Respiration Section, and the Water & Electrolyte Homeostasis Section serving on the APS Program Committee, have pooled and integrated their resources and ideas to come up with a broad offering of symposia and featured topics sessions of interest to all of us. Here is a sampling of that effort:

Epithelial Transport Group

Symposium:

Flow/Stretch-Regulated Membrane And Ion Transport In Epithelia. Organizers: Lisa Satlin, M.D., Mount Sinai School of Medicine, and Gerard Apodaca, Ph.D., University of Pittsburgh School of Medicine. Sunday, April 13, 2003, 8:00-10:00 AM

Speakers:

Lisa Satlin, M.D., Mount Sinai School of Medicine, "Flow regulation of ion transport in the distal nephron"

Gerard Apodaca, Ph.D., University of Pittsburgh School of Medicine, "Stretch-regulated exocytosis/endocytosis in uroepithelium"

Sheldon Weinbaum, Ph.D., City College of New York, "Mechanotransduction in cells with microvilli and cell processes (ear, kidney, bone cell)"

Mike Welsh, Ph.D., University of Iowa College of Medicine, "Role ENaC, degenerins and sensory transduction"

Eric Schweibert, Ph.D., University of Alabama, Birmingham, "ATP release in kidney epithelium"

Featured Topics:

Epithelial Anion Channels: Structure, Form, Function. Organizers: Kevin Kirk, PhD, and Catherine Fuller, PhD, Department of Physiology and Biophysics, University of Alabama at Birmingham. Speaker: Christine Bear, PhD, Hospital for Sick Children and University of Toronto. Tuesday, April 15, 8:00-10:00 AM

Structure and Regulation of Epithelial Na⁺ and K⁺ Channels. Organizers: Douglas Eaton, PhD, Department of Physiology, Emory University, and Thomas Kleyman, MD, Department of Medicine, University of Pittsburgh. Speaker: Rebecca Hughey, PhD, University of Pittsburgh. Monday, April 14, 3:15-5:15 PM

Cell & Molecular Physiology Section

Hugh Davson Distinguished Lectureship: Roger Tsien, Univ. of California, San Diego.

Monday, April 14, 9:00 AM

Symposia:

Gap-Junctional Hemichannels: Physiology And Pathophysiology. Luis Reuss and Lisa Ebihara. Saturday, April 12, 2003, 10:30 AM -12:30 PM

Caveolar Domains in Cell Signalling. Paul A. Insel. Monday, April 14, 2003, 10:30 AM-12:30 PM

Featured Topics:

The Molecular Physiology of HCO₃⁻ Transport. Michael Romero and Mark O. Bevensee. Sunday, April 13, 8:00-10:00 AM

Regulation of Ion Transporter Trafficking. Wenhui Wang. Tuesday, April 15, 2003, 10:30 AM-12:30 PM

Gastrointestinal Section

Horace W. Davenport Distinguished Lectureship: Jeffrey I. Gordon, Washington University.

Sunday, April 13, 2:00 PM

Symposium:

Recent Advances in the Study of Intestinal Hexose Transport Proteins. Ron Ferraris and Chris Cheeseman. Saturday, April 12, 3:15-5:15 PM

Featured Topic:

Trafficking of Membrane Transporters in the GI Tract and Beyond. Curtis Okamoto. Tuesday, April 15, 8:00-10:00 AM

Physiological Genomics Group

Symposium:

Epithelial-Neuronal Interactions Underlying Bladder Gene-Regulation and Sensory Function. Lori A. Birder. Tuesday, April 15, 2003, 10:30 AM-12:30 PM

Renal Section

Carl W. Gottschalk Distinguished Lectureship: William J. Arendshorst, University of North Carolina. Saturday, April 12, 3:15 PM

Symposia:

Role of the Transcription Factor, TonEBP/NFAT5, in Osmotic and Immunologic Stress. Maurice Burg and Joseph Handler. Sunday, April 13, 2003, 10:30 AM-12:30 PM

New Roles for Ammonia in Renal Ion Transport. I. David Weiner and L. Lee Hamm. Tuesday, April 15, 2003, 8:00-10:00 AM

Respiration Section

Symposium:

Regulation of Ion Channel Structure and Function by Reactive Oxygen Nitrogen Intermediates. Sadis Matalon and Douglas C. Eaton. Tuesday, April 15, 2003, 10:30 AM-12:30 PM

Water & Electrolyte Homeostasis Section

Ernest H. Starling Distinguished Lectureship: Friedrich C. Luft, Humboldt University of Berlin. Monday, April 14, 10:50 AM

Workshops And Special Symposia

Understanding and Applying Critical Translational Assays. Glenn Reinhart and Chahrazad Montrose-Rafizadeh. Sunday, April 13, 8:00-10:00 AM

Frontiers of Intravital Microscopy: Crossroads of Physiology and Pathology. Michael S. Goligorsky. Friday, April 11, 1:00-3:00 PM

ETG AWARD FOR EXCELLENCE FOR GRADUATE STUDENTS AND FELLOWS

At EB 2003 the Epithelial Transport Group will initiate its first awards for meritorious research presented at EB by a predoctoral trainee and a postdoctoral trainee. Two awards will be made. One of these awards (\$250) will be given for work done while a graduate student or medical student, the other (\$250) for work done as a postdoctoral fellow, medical resident or medical fellow. To be considered, the applicant must be first author on an abstract submitted to an ETG-sponsored Abstract Topic Category. A copy of the submitted abstract, accompanied by the APS Award Certification Form (found on page 4 of the pdf file located at: http://www.faseb.org/meetings/eb2003/call/award_aps.pdf) should be sent to: Thomas Kleyman, Ph.D., Department of Medicine, Renal Division, University of Pittsburgh, Scaife Hall, A919, 3550 Terrace Street, Pittsburgh, PA 15261, to arrive on or before February 1, 2003.

CALL FOR SYMPOSIA AND FEATURED TOPICS FOR EXPERIMENTAL BIOLOGY 2004

We are looking ahead to planning and promoting events at Experimental Biology 2004, which will be held in Washington, DC, April 17-21. The APS will support one (1) symposium and two (2) Featured Topics offered by the Epithelial Transport Group. Symposia (2 hours) are funded at \$ 4,000. In addition, APS waives registration fees for the chair and invited speakers. Featured Topics (2 hours) are funded at \$ 750. Registration fees are not waived.

We need your input to plan these events. Please help by submitting a title or topic for an ETG Symposium or Featured Topic session and the name of the session chair before March 1, 2003 to either Cathy Fuller or Tom Kleyman (see their addresses at the end of the Newsletter). The ETG Steering Committee will then select 3 proposals for further development. Selection of an idea will be followed by an invitation for a formal application. We need your help and creativity to develop this forum for research in epithelial transport.

CALL FOR TOPICS FOR APS CONFERENCES

The APS sponsors a number of conferences held in the summer and fall of each year. These are major conferences on very refined topics. Funds are available from the APS for these conferences, although additional funds from other sources are required. ETG members are encouraged to submit their ideas together with possible organizing committee members and speakers to Linda Allen (Membership Services Manager) lallen@the-aps.org. If you would like to discuss possible topics and support from the ETG, contact any Steering Committee member.

MEETING AND COURSE ANNOUNCEMENTS

APS Conference on Aldosterone and ENaC: From Genetics to Physiology.

September 10-14, 2003, Banff, Alberta, Canada. Organizers: Daniela Rotin and Douglas C. Eaton. Go to (soon): http://www.the-aps.org/meetings/aps/mtg_confern.htm

APS Physiological Genomics Conference: Understanding Renal and Cardiovascular Function through Physiological Genomics.

October 1-4, 2003, Augusta, GA. Go to: http://www.the-aps.org/meetings/aps/mtg_confern.htm

Biophysical Society 47th Annual Meeting, March 1-5, 2003, San Antonio, TX. Go to: www.biophysics.org/annmtg/

Digestive Disease Week, May 18-21, 2003, Orlando, FL. Go to: <http://www.ddw.org/>

Gordon Research Conference: Salivary Glands and Exocrine Secretion, February 2-7, 2003. Ventura, CA. Go to: <http://www.grc.uri.edu>

Keystone Symposium: The Regulation of Mucosal Inflammation, April 1 - 6, 2003, Keystone, CO. Organizers: Warren Strober and Fiona Powrie. Go to: <http://www.symposia.com/Meetings>

Sixth International Congress of Comparative Physiology and Biochemistry, February 2-7, 2003, Mt. Buller, Australia. Speakers include K. Strange, K. Beyenbach, H. Moo Kwon, and many others. Go to: <http://www.zoo.Latrobe.edu.au/iccpb>

POSITIONS AVAILABLE

Research Faculty and Postdoctoral Positions. Molecular physiology of the fluid secretion process. Studies focus on the water and ion transport mechanisms which underlie the secretion of fluid and electrolytes in mammalian exocrine glands. Expertise in one or more of the following areas is required: whole-cell patch clamp (experience in patching epithelial cells preferred); molecular biology (eukaryotic gene expression, construction of knockout mice); cell physiology (ion flux and intracellular pH measurements). Send curriculum vitae, statement of current and future research interests, and names and addresses of at least three references to Dr. James Melvin, Aab Institute

of Biomedical Sciences, Box 611, University of Rochester Medical Center, 601 Elmwood Avenue, Rochester, NY 14642.

EPITHELIAL TRANSPORT GROUP STEERING COMMITTEE

Chair and ASP Representative

Thomas Kleyman
Department of Medicine
Renal Division
University of Pittsburgh
Scaife Hall, A919
3550 Terrace Street
Pittsburgh, PA 15261
(412) 647-3121
(412) 648-9166 (fax)
kleyman@pitt.edu

Vice Chair

Catherine M. Fuller
Department of Physiology and Biophysics
University of Alabama at Birmingham
1918 University Blvd, 830 MCLM
Birmingham, AL 35294-0005
(205) 934-6085
(205) 934-1445 (fax)
fuller@physiology.uab.edu

Matthias A. Hediger
Department of Medicine, Biological Chemistry
& Molecular Pharmacology
Harvard Institutes of Medicine
77 Avenue Louis Pasteur, Rm. 570
Boston, MA 02115
(617) 525-5820
(617) 525-5821 (fax)
mhediger@rics.bwh.harvard.edu

John B. Pritchard
Lab. of Pharmacology and Chemistry
NIEHS, NIH
P.O. Box 12233
Research Triangle Park, NC 27709-2233
(919) 541-4054
(919) 541-5737 (fax)
pritchard@niehs.nih.gov

Past Chair

Klaus Beyenbach
Section of Physiology
Division of Biological Sciences
Cornell University
VRT 8014
Ithaca, NY 14853-0001
(607) 253-3482
(607) 253-3851 (fax)
kwb1@cornell.edu

Newsletter Editor

Michael E. Duffey
Department of Physiology and Biophysics
University at Buffalo (SUNY)
124 Sherman Hall
Buffalo, NY 14214-3078
(716) 829-3111
(716) 829-2344 (fax)
duffey@buffalo.edu

Kevin L. Kirk
Department of Physiology & Biophysics
University of Alabama at Birmingham
University Station
Birmingham, AL 35294-0005
(205) 934-3122
(205) 934-1445 (fax)
kirk@phybio.bhs.uab.edu

James Stockand
Department of Physiology
University of Texas
Health Science Center
7703 Floyd Curl Drive
San Antonio, TX 78229-3900
(210) 567-4332
(210) 567-4410 (fax)
stockand@uthscsa.edu