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### MESSAGE FROM THE CHAIR

This letter should reach you just prior to this year's EB meeting in San Francisco. The theme of this year's Physiology in Focus organized by APS President Doug Eaton is "From Molecules to Organisms: Approaches to Systems and Integrative Physiology". The four symposia will cover the use of atomic force microscopy to study cellular signaling, the role of the cilium in renal function, lipids as signaling molecules and the regulation of alveolar fluid clearance. This promises to be an interesting and useful series of symposia that I urge you to attend. There are also of course three excellent sessions sponsored by the ETG, a symposium on "Protein:Protein Interactions in Epithelial Physiology" and two featured topics on "Epithelial Ion Channels" and "Lipid Signaling, Lipid Rafts and Epithelial Transport". Further details on these sessions can be found later in this newsletter. At last year's IUPS meeting, most symposia and featured topics were organized into themed tracks. This year, several tracks have also been identified, sessions being organized into fairly broad areas; those of potential interest to ETG members include Lipid Signaling, and Translational Research. I think that all in all this promises to be an exciting meeting – and of course the wonderful location doesn't hurt!

This year, as in the past three years, the steering committee has selected two trainees as recipients of the ETG Post-doctoral and Post-Graduate awards. These awards are made for the best abstract submitted by a doctoral trainee and post-doctoral fellow to any ETG sponsored session, with one award being made in each category. I am pleased to announce that the winners this year are Mr. P. Malreddy (Kansas State University, Manhattan, KS) and Dr. Jennifer Bomberger (Dartmouth College, Hannover NH). I know you will join with me in giving these individuals our hearty congratulations! The awards will be presented during the meeting; details are given later in this newsletter.

I would also like to remind you that we are soliciting nominations for individuals to serve on the ETG steering committee. You may nominate yourself or others; if you want to be a part of the process for programming future EB meetings, this is your chance!! We are also gathering suggestions for symposia and featured topic sessions for EB07 in Washington D.C. Please feel free to contact me or any other member of the Steering Committee with your input on either of these issues (contact information is given at the end of the newsletter).

I look forward to seeing you in San Francisco,

Yours,  
Cathy



## ETG STUDENT AND YOUNG INVESTIGATOR AWARD

We offer congratulations to the recipients of this years ETG awards. These awards are made for the best abstracts submitted by a pre-doctoral trainee and a post-doctoral fellow. This years winners are:

**Mr. P. Malreddy** *Kansas State Univ.*

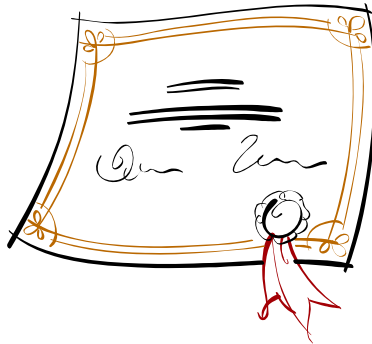
Abs. 482.25

*Potassium conductance identity in porcine vas deferens epithelia*

**Dr. J. Bomberger** *Dartmouth College*

Abs 758.8

*Regulation of Na/H exchanger-3 by adrenomedullin in human proximal tubule cells: role for receptor activity-modifying proteins and Na/H exchanger regulatory factor 3.*



The presentations will be made at the start of the Featured Topic **Epithelial Ion Channels**.

This session, chaired by K.R. Hallows and H.A. Drummond, will be held on Mon. April 3rd at 10:30 AM Room 133, Moscone North.

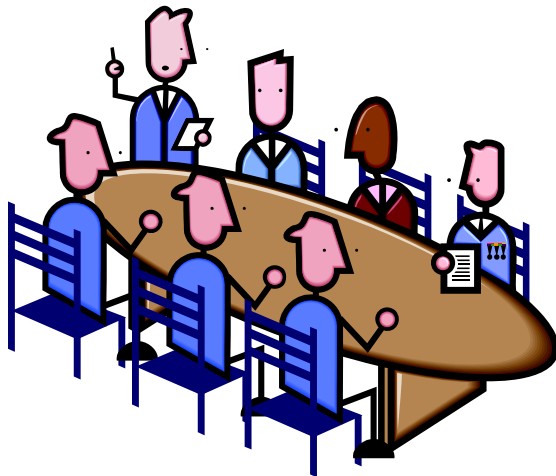
Please join us in congratulating these awardees on their excellent abstracts.



### The poster session categories are:

- 1103-APS Epithelial ion channels
- 1106-APS Epithelial acid/base regulation
- 1107-APS Epithelial cell polarity traffic and junctions
- 1108-APS Epithelial genomics and proteomics
- 1117-APS Epithelial microbial interactions
- 1037-APS Epithelial transport and epithelial cell polarity
- 1109-APS Epithelial transporters, exchange

## CALL FOR NOMINATIONS



Interested in deciding where the ETG is going? Do you have ideas to improve the ETG? The ETG is currently soliciting nominations for new members to serve on the committee. You may nominate yourself or others to stand for election in the summer of 2006. The steering committee is primarily responsible for programming sessions focused on epithelial physiology at the annual Experimental Biology meeting. Please send nominations to Cathy Fuller Ph.D. Dept. Physiology and Biophysics, 1918 University Blvd, Birmingham AL 35294-0005 ([fuller@physiology.uab.edu](mailto:fuller@physiology.uab.edu))

## ETG SYMPOSIUM: SUNDAY APR 3<sup>RD</sup> 8:00 AM, RM 132

This year's ETG sponsored symposium is "**Protein-protein interactions in Epithelial Physiology**" to be held on Sunday April 2 at 8:00-10:00 am.

Room 132, Moscone North

The concept of proteins operating in isolation within a cell is one that has been rapidly being eroded in the past few years. Indeed, it is becoming increasingly apparent that membrane proteins exist in functional networks, not only for trafficking through the cell, but also for function at their final cellular destination. Much of the work in elucidating these networks has come from studies in polarized epithelia, where it has been shown that both membrane localization and internalization of transporters and channels are highly dependent on specific protein:protein interactions. As information concerning these interactions in regulating epithelial physiology accumulates, it becomes more important to provide a forum where

ideas and insights gained from different aspects of epithelial membrane physiology can be shared. The focus of this symposium therefore is to examine four distinct areas where protein:protein interactions are of critical importance in the regulation of epithelial function. The first speaker is Dr. Michael Caplan, who has performed seminal work concerning the sorting and trafficking of ion ATPase pumps, and has recently shown that CD63 is involved in internalization of the H<sup>+</sup>/K<sup>+</sup>ATPase b subunit. Dr. Daniela Rotin defined the interaction of Nedd4-2 in the internalization of ENaC, and characterized the role of this protein in maintaining the sodium channel at the cell membrane, and thus its influence on epithelial sodium transport. Dr.

Mark Donowitz is a pioneer in the field of PDZ domain biology as applied to epithelial tissues, particularly as it applies to the interaction of NHERF1/2 to the Na<sup>+</sup>/H<sup>+</sup> antiport and cytoskeleton in the gut. Dr. Neil Bradbury was one of the first to demonstrate that the cytoskeletal protein ezrin is involved in the PKA -

dependent regulation of CFTR as a result of PDZ domain interactions. Thus, the proposed speakers cover a broad spectrum of topics of interest to the epithelial community. While sessions on several similar topics have been presented at previous meetings, the unique epithelial focus and functional emphasis of this symposium, at a point when the field is becoming increasingly complex, is both timely and required. Furthermore, this symposium intends to bring together some of the leaders in their respective fields, providing an opportunity for a comprehensive assessment of the role of protein:protein interactions in epithelial physiology

### Protein-Protein Interactions in Epithelial Physiology

Sun April 2nd  
8:00-10:00 am



Experimental Biology 2005  
San Francisco, CA  
April 1-5 Moscone Convention Center

#### Protein-Protein Interactions In Epithelial Physiology

*Sponsored by the APS Epithelial Transport Group*

Sun April 2— 8:00-10:00 AM

Chaired **Neil Bradbury**, Chicago Medical School **Cathy Fuller**, Univ. Alabama at Birmingham

- |         |   |
|---------|---|
| 8:00 AM | Ion Pump interacting Proteins— <b>Michael Caplan</b> , Yale Univ.   |
| 8:30 AM | Protein:protein interactions in ENaC regulation and function— <b>Daniela Rotin</b> , Hosp. for Sick Children, Toronto |
| 9:00 AM | PDZ interactions in kidney function— <b>Mark Donowitz</b> , Johns Hopkins Univ. Sch. Of Med.                          |
| 9:30 AM | Protein:protein interactions in epithelial chloride secretion— <b>Neil Bradbury</b> , Chicago Medical School          |

## ETG FEATURED TOPICS

### EPITHELIAL ION CHANNELS

Mon. 10:30 AM –Room 133, Moscone North

CHAired: *K.R. Hallows AND H.A. Drummond*

10:30 AWARDS GIVEN TO ETG RECIPIENTS

10:30 Regulation of the epithelial Na channel by small G proteins **J.D. Stockand**, Univ. Texas. San Antonio

11:00 Proteolytically cleaved ENaC modulates a vesicle recycling pool responsible for cAMP-stimulated channel insertion **M.B. Butterworth et al** Univ. Pittsburgh (482.3)

11:15 Liddle's mutation increases ENaC surface expression by decreasing endocytosis of active channels **R. Kabra et al** Univ Iowa Col Med (482.5)

11:30 Heteromultimerization of ASIC and ENaC channels determined by FRET microscopy **R.H. Meltzer et al** UAB (482.6)

11:45 Bestrophin-mediated Ca activated Cl conductance of the airway epithelium **S.E. Gabriel et al** UNC (482.20)

12:00 Mitogen-activated protein kinases inhibit the Ca-dependent big conductance K channels in the CCD **D. Li et al** New York Med Col (482.24)

12:15 Gender specific inhibition of KCNQ1 in the secretory effects of 17 $\beta$ -estradiol on rat distal colonic crypts is regulated by PKC $\delta$  **F.O'Mahony et al** Royal Col Surgeons Ireland (482.25)

### LIPID SIGNALING, LIPID DRAFTS AND EPITHELIAL TRANSPORT

Tue. 8:00 AM—Room 130 Moscone North

CHAired: *M. Levi*

8:00 Palmitoylation of the potassium channel Kv1.1 **R.W. Gross** Wash. U. Sch. Med.

8:30 Role of lipid rafts in ceramide and nitric oxide signaling in the ischemic and preconditioned hearts **P.Der et al** Univ. Connecticut Sch. Med. (757.1)

8:45 Ceramide mediates cytokine-induced pulmonary oedema by inhibiting ENaC **O. Kelly et al** UAB (757.2)

9:00 Ceramide inhibits epithelial sodium channels in A6 distal nephron cells **Y-Y Liang et al** UAB (757.3)

9:15 Polyunsaturated fatty acids modulate platelet-activating factor receptor-mediated signaling pathways **Lu et al** Northwestern Univ (757.4)

9:30 Arachidonic acid induces c-Src activation independent of G $\beta$  signaling pathways **L.D.Alexander et al** Univ Michigan (472.21)

9:45 Cell membrane lipid raft-redox signaling platform mediates the actions of endostatin in coronary arterial endothelium **A.Y. Zhang et al** Med. Col. Virginia (787.2)

## ADDITIONAL FEATURED TOPICS OF INTEREST

### Development and Maintenance of Epithelial polarity

Sun Apr 2: 10:30-12:30—Room 132, Moscone North

10:30 Cellular mechanisms involved in development and maintenance of epithelial cells **Charles Yeaman**, Univ Iowa

10:55 Protein complexes and signal transduction mechanisms that control cell polarity **Ben Margolis** Univ.Michigan

11:20 The role of Par-1 in epithelial lumen formation **Anne Muesch** Weill Med Col. Cornell Univ.

11:45 Rab-mediated sorting in polarized cells **James Goldenring** Vanderbilt Univ.

## OTHER SESSIONS OF INTEREST

### Transition from Postdoc to Jr. Faculty: Surviving the Initial Years

Tuesday, April 4, 2006 8:00-10:00 AM  
Convention Centre, Room 132

This session is organized by Rudy Ortiz, Ph.D, and Ryan Bavis Ph.D. and is designed to address critical issues associated with moving to a first faculty position, such as negotiating a salary and start-up funding. Once you have the position how do you set up your lab and prioritize your time? The session will include oral presentations by invited speakers, followed by a round-table discussion led by the speakers

Negotiating a faculty position. The do's and don'ts

**L. Gabriel Navar**, Tulane University

Setting up the lab

**Karie Scrogin**, Loyola University Med Ctr.

Down the road to funding : getting the first grant

**Ann Schreihofe**r, Medical College of Georgia

Juggling the responsibilities of a young PI:  
Insights from personal experience

**Sean Stocker**, University of Kentucky



Moscone Convention Centre

## SECTION DISTINGUISHED LECTURESHIPS THAT MAY BE OF INTEREST

Hugh Davson Distinguished Lectureship of the APS Cell & Molecular Physiology Section

Title: *Pursuing Cystic fibrosis*  
Michael J. Welsh. Univ. Iowa.

Horace W. Davenport Distinguished Lectureship of the APS Gastrointestinal & Liver Physiology Section.

Title: *Friends and Foes: the physiology of gut epithelial interactions with luminal bacteria*  
Kim. E. Barrett. U.C.S.D.

Ernest H. Starling Distinguished Lectureship of the APS Water & Electrolyte Homeostasis Section

Title: *The critical role of the kidney in hypertension: implications for pathogenesis and therapy*  
Thomas Coffman, Duke Univ.

**"The National Academy of Sciences would be unable to give a unanimous decision if asked whether the sun would rise tomorrow"**  
**Paul Ehrlich**  
**1854-1915**



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- 1108-APS Epithelial genomics and proteomics
- 1117-APS Epithelial microbial interactions
- 1037-APS Epithelial transport and epithelial cell polarity

1109-APS Epithelial transporters, exchangers and pumps

Poster sessions are held Saturday, April 2 though Tuesday April 5.



<http://www.the-aps.org/groups/epithelial/index.htm>

## MEETINGS OF INTEREST TO ETG MEMBERS

### Membrane Transport Proteins

Aug 13-18 University of New England. ([www.grc.uri.edu/06sched/htm](http://www.grc.uri.edu/06sched/htm))

## EPITHELIAL TRANSPORT GROUP STEERING COMMITTEE

### Chair and APS Representative

Catherine M. Fuller  
Department of Physiology and Biophysics  
University of Alabama at Birmingham  
1918 University Blvd, Birmingham AL 35294-0005  
Tel (205) 934-6085 Fax (205) 934-1445  
[fuller@physiology.uab.edu](mailto:fuller@physiology.uab.edu)

### Vice Chair

Moshe Levi  
Department of Medicine  
University of Colorado Health Sciences Center  
4200 E Ninth Avenue, C281, Denver CO 80262  
Tel (303) 315-8771 Fax (303) 315-4852  
[mmjji@aol.com](mailto:mmjji@aol.com)

### Newsletter Editor

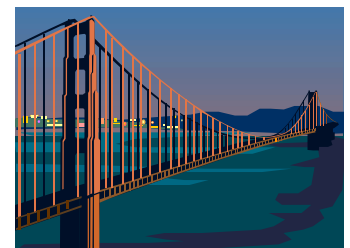
Neil A. Bradbury  
Department of Physiology and Biophysics  
Chicago Medical School  
3333 Green Bay Road, North Chicago 60064  
Tel (847) 578-8362  
[neil.bradbury@rosalindfranklin.edu](mailto:neil.bradbury@rosalindfranklin.edu)

### Past Chair

Thomas Kleyman  
Department of Medicine/Renal  
University of Pittsburgh School of Medicine  
Scaife Hall, A919, 3550 Terrace Street,  
Pittsburgh PA 15261  
Tel (412) 647-3121 Fax (412) 648-9166  
[kleyman@pitt.edu](mailto:kleyman@pitt.edu)

Jonathan D. Kaunitz  
UCLA School of Medicine  
Wadsworth VA Medical Center, Dept. Medicine  
11301 Wilshire Boulevard Bdg 114 Suite 217  
Los Angeles CA 90073  
Tel (310) 268-3879 Fax (310) 268-4811

Michael F. Romero  
Case Western Reserve University  
Department of Physiology and Biophysics  
2119 Abington Road, SOM-E545  
Cleveland OH 44106-4970  
Tel (216) 368-3180 Fax (216) 368-3952  
[mfr2@po.cwru.edu](mailto:mfr2@po.cwru.edu)



Experimental Biology 2006  
San Francisco