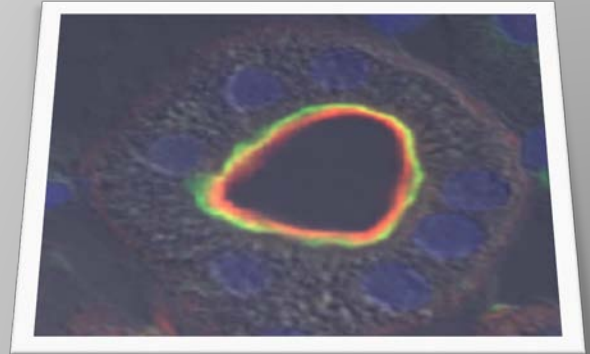


# EPITHELIAL TRANSPORT GROUP *NEWSLETTER*



## IN THIS ISSUE:

1. 2022 Epithelial Transport Group Highlights
2. Message from the ETG Chair
3. The ETG Pre-summit Meeting
4. Program: ETG Pre-Summit meeting for Young Scientists including the Hans Ussing Lecture 2023 (part 1)
5. Program: ETG Pre-Summit meeting for Young Scientists including the Hans Ussing Lecture 2023 (part 2)
6. Ussing and Hebert lectures
7. Foundational Science Sessions relevant to ETG
8. Epithelial Transport Group Trainee Advisory Committee
9. Epithelial Transport Group Steering Committee



**Highlight from The Hans  
Ussing Lecture of the  
Epithelial Transport  
Group 2022 given by  
Professor Bonnie L.  
Blazer-Yost.**



**Highlight from The Steve  
Hebert Lecture of the  
Epithelial Transport  
Group 2022 given by  
Professor Jens Georg  
Leipziger**

**Highlight from  
the pre-EB  
meeting 2022**



## Message from the ETG Chair

### Dr. Arohan R. Subramanya

Dear Epithelial Enthusiasts-

Greetings! ETG has been working hard to assemble an exciting program for the inaugural APS Summit in Long Beach.

On **Thursday April 20**, we will hold the annual **Pre-Summit Meeting for Young Scientists** from **8am-2:00pm** in **Grand Ballroom I**. Led by Morag Mansley, the Pre-Summit organizing subcommittee has put together a terrific schedule of trainee talks. There's *plenty* of room in Grand Ballroom I, so please come and support our trainee speakers!



Immediately following the Pre-Summit meeting will be the **Ussing Session**, which will be held in Grand Ballroom I from 2:00-3:30. The session will include the 15<sup>th</sup> Hans Ussing Lecture, which will be given by Dr. Mark Donowitz of Johns Hopkins, as well as top scoring abstracts submitted to ETG this year. Read on for our full schedule of programming on Thursday.

ETG's **Hebert Session** will be in the Seaside Ballroom on **Friday April 21 from 1:30-3pm**, and will include the 12<sup>th</sup> Steve Hebert Lecture, which will be presented by Dr. Sylvie Breton of Université Laval. Dr. Breton's lecture will be accompanied by additional top-scoring abstracts submitted to ETG. Very excited for both of our named lectures this year!

ETG will host its **poster session** on **Friday April 21 from 5-6:30pm**. Pre- and postdoctoral trainees presenting posters: As in previous years, judges will be coming by your poster during these sessions and **the top scoring presentations will be recognized** with awards, so please look out for them and be ready to present!

This year, Brandi Wynne applied for NIDDK R13 funding to support travel for select kidney and bladder epithelial abstract presentations submitted to ETG and the Renal Section. We just heard some great news: the proposal's score was "within the zone of funding consideration" and "has been selected for a potential award". That sounds pretty good to us and we're hopeful we'll be able to pass on an even better update to our kidney/bladder trainees in Long Beach. Thanks Brandi for your excellent work.

ETG would also like to highlight several **Foundational Science Sessions** which will be held throughout the meeting. Info on these sessions is included in this newsletter, so do read on for more info and please be sure to add these exciting sessions to your calendar in the APS Summit App.

Finally, I'd like to give two shout outs. First I'd like to recognize the savvy social media work of our **Trainee Advisory Committee**, chaired by Søren Poulsen. Thanks to the TAC, ETG is a great "follow" on social media. And second, a big thank you to Hanne Møller, who has completed her term as ETG's Newsletter Editor. Thanks for your hard work over the years, Hanne!

**We are looking forward seeing you in California for the APS Summit!**

## THE EPITHELIAL TRANSPORT GROUP PRE-SUMMIT MEETING 2023

**HIGHLIGHTING TRAINEES & JUNIOR INVESTIGATOR RESEARCH FROM  
ALL AREAS OF EPITHELIAL CELL TRANSPORT AND PHYSIOLOGY  
INCLUDES THE HANS USSING LECTURE 2023**

### Purpose:

In this “Young Investigators Symposium” younger researchers (PhD/graduate students, post-doctoral fellows etc.) get the opportunity to present their work in a friendly and less formal atmosphere.

The meeting will consist of short communications of 8 min and 5 min for discussion.

The symposia are usually attended by between **80 and 120 researchers** and have been held since 1991.

**Registration:** Please note that registration to the meeting is no longer needed, everyone is welcome. There is a \$20 registration fee (paid on site) to offset the costs for the meeting.

**We are looking forward to excellent science - please check out this year's program in this Newsletter.**

**Thursday, April 20<sup>th</sup>, 2023  
from 8 am-3.30 pm, Grand Ballroom I,  
Long Beach Convention &  
Entertainment Center**

### Networking:

The ETG pre-Summit meeting is very well attended! Present your work to your peers as well as to experienced researchers and network with them over tea and coffee.



Pre-EB2022 Highlight

### ETG PRE-SUMMIT ORGANIZING COMMITTEE

**Morag Mansley  
Stephen Keely  
Søren Brandt Poulsen**



## ETG Pre-Summit meeting - Full Program (part 1)

Thursday 20<sup>th</sup> April, 08:00-15:30

Grand Ballroom I, Long Beach Convention & Entertainment Center

Please note that registration to the meeting is no longer needed, everyone is welcome. There is a \$20 registration fee (paid on site) to offset the costs for the meeting.

### SESSION 1. [08:00 – 09:31] Chair: Morag Mansley, Co-Chair: Florian Sure

- 8:00 Acute and reversible modulation of kidney proximal tubule endocytic capacity by fluid shear stress. **Emily Lackner**, University of Pittsburgh
- 8:13 Adolescent is more susceptible to tuft cell hyperplasia with increased mast cell infiltration and enhanced FFA2/5-HT mediated anion secretion in mouse duodenum and jejunum. **Sugur Ito**, UCLA
- 8:26 Automated serial section electron microscopy and 3D reconstruction reveals role for nonmuscle myosin II in organelle structure and cargo transport regulation within the murine kidney thick ascending limb. **Brook Busselman**, University of South Dakota
- 8:39 Measuring urine concentration capacity and luminal Na in live mice by intravital multi-photon microscopy. **Andrew Wu**, Henry Ford Hospital
- 8:52 Developing a multiscale mathematical model of protein uptake along the mouse proximal tubule. **Katherine Shipman**, University of Pittsburgh
- 9:05 Renal tubular uric acid influences water reabsorption, urine concentration, and K<sup>+</sup> homeostasis. **Ava Zapf**, University of Maryland
- 9:18 Renal Tubule mTORC2 Deletion Increases Gluconeogenesis and Urinary Glucose Excretion. **John Demko**, UCSF

### 09:31 – 09:55 Coffee break & networking

### SESSION 2. [09:55 – 11:26 ] Chair: Mike Althaus, Co-Chair: Ava Zapf

- 09:55 Macula Densa Mechanisms of Salt-Sensitive Hypertension. **Sachin Deepak**, University of Southern California
- 10:08 The microRNA cluster miR-17~92 is induced by aldosterone and estrogen and inhibits aldosterone signaling in the kidney distal nephron. **Corinne Farrell**, University of Pittsburgh
- 10:21 In mouse kidney endogenous transmembrane serine protease 2 (TMPRSS2) contributes to proteolytic processing and activation of the epithelial sodium channel (ENaC). **Florian Sure**, Friedrich-Alexander-Universität Erlangen-Nürnberg
- 10:34 Phenylacetylglutamine causes a pathologic inflammation state through the  $\beta_2$ -adrenergic receptor /cAMP/PKA/NF- $\kappa$ B pathway in diabetes. **Lu Huang**, Shanghai Jiao Tong University
- 10:47 Peroxisome proliferator-activated receptors mediate phytochemical-induced upregulation of farnesoid X receptor expression and activity in colonic epithelial cells. **Jessica Smyth**, Royal College of Surgeons in Ireland
- 11:00 Histamine-mediated calcium and actin cytoskeleton dynamics in the renal epithelial cells. **Valeriia Vasileva**, Augusta University
- 11:13 Direct actions of angiotensin II on kidney and brain endothelial cells in vivo. **Alejandra Calderon**, University of Southern California

### 11:26 – 12:30 Lunch (on your own)

## ETG Pre-Summit meeting - Full Program (part 2)

### SESSION 3. [12:30 – 13:35 ] Chair: Ina Maria Schiessl, Co-Chair: John Demko.

- 12:30 *Effects of Hyperuricemia on the Progression of Salt-sensitive Hypertension in Dahl SS rats.* Lashodya Dissanayake, University of South Florida
- 12:43 *Farnesoid X receptor activation attenuates intestinal inflammation and preserves epithelial barrier function in vivo and in vitro.* Caitriona Curley, Royal College of Surgeons in Ireland
- 12:56 *Nephron-specific deletion of ALMS1 (Alstrom syndrome 1) increases surface NKCC2 expression and NaCl reabsorption in the Thick Ascending Limb.* Dipak Maskey, Henry Ford Hospital
- 13:09 *Altered colonocyte differentiation may lead to decreased electrolyte and fluid absorption in the ileocolon of IBD patients by affecting the expression pattern of the responsible ion transporters.* Katerina Nikolovska, Medizinische Hochschule Hannover
- 13:22 *Effect of SGLT2 Inhibition on the transcriptomic and proteomic profile of non-diabetic Dahl SS Rats.* Olha Kravtsova, University of South Florida

### 13:35 – 14:00 Coffee Break & networking

### SESSION 4. [14:00 – 15:30] Hans Ussing Lecture Feature Topic

Chair: Hui Cai, Co-Chair: Linto Thomas

- 14:00 *Introduction to Dr. Donowitz.* Hui Cai, Emory University
- 14:05 *The 15<sup>th</sup> Hans Ussing Lecture, New Insights into Intestinal NaCl Absorption.* Mark Donowitz, John Hopkins University
- 14:30 *Mice lacking gamma ENaC palmitoylation sites maintain amiloride/benzamil-sensitive Na<sup>+</sup> transport in vivo, despite markedly reduced open probability of typical ENaC-like channels.* Andrew Nickerson, University of Pittsburgh
- 14:45 *The WNK-SPAK/OSR1 kinases and NKCC1 control epithelial barrier function by regulating claudin-2 expression.* Rainelli Koumangoye, Vanderbilt University
- 15:00-15:15 *Mineralocorticoid receptor-independent activation of ENaC in a mouse model of cholestatic liver disease.* Ossama Kashlan, University of Pittsburgh
- 15:15-15:30 *A novel role of 1,25(OH)<sub>2</sub> vitamin D<sub>3</sub> in the regulation of intestinal Npt2b and renal Npt2c in hypophosphatemia.* Linto Thomas, University of South Florida



Pre-EB2022 Highlight

## The Steve Hebert Lecture of the Epithelial Transport Group



Title:

Epithelial Dynamics in the  
Urogenital Tract

**Dr. Sylvie Breton**

Centre Hospitalier Universitaire de  
Québec - Research Centre and  
Department of Obstetrics, Gynecology  
and Reproduction, Faculty of Medicine  
Université Laval

Friday 21<sup>st</sup> April, 2023  
13:30-15:00,  
Seaside Ballroom

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## The Hans Ussing Lecture of the Epithelial Transport Group

Title:

New Insights into Intestinal  
NaCl Absorption.

**Mark Donowitz**

Director, Hopkins NIH/NIDDK  
Conte Core Center, Professor of  
Medicine



Thursday 20<sup>th</sup> April, 2023  
14:00-15:30, Grand Ballroom I, Long Beach  
Convention & Entertainment Center

## Foundational Science Sessions relevant to ETG

### **Expanding our Vision on Membrane (Patho)Physiology - Novel Microscopy Techniques Across Disciplines**

Friday, April 21, 2023, 10:30 a.m. - 12:00 p.m. Pacific Daylight Time (PDT)

Room 102, Long Beach Convention and Entertainment Center

Chair: Ina Maria Schiessl, Co-chair: Georgina Gyarmati

### **Chloride, sodium, and bicarbonate secretion in the lung and intestine: similarities and divergences**

Friday, April 21, 2023, 10:30 a.m. - 12:00 p.m. Pacific Daylight Time (PDT)

Room 101, Long Beach Convention and Entertainment Center

Chairs: Lane Clark and Ian Thornell

### **The Multiple Emerging Functions of Trp and Piezo Channels as Physiological Sensors in Epithelial Tissues**

Saturday April 22, 2023, 10:30am-12.00pm. Pacific Daylight Time (PDT)

Room 201A, Long Beach Convention Center.

Chair: Mike Althaus, Co-chair: Morag Mansley

### **New Physiology of Salt Balance**

Saturday, April 22, 2023, 10:30 a.m. - 12:00 p.m. Pacific Daylight Time (PDT)

Grand Ballroom II, Long Beach Convention and Entertainment Center

Chair: Cary Boyd-Shiwerski, Co-chair: Paul Welling

### **Crosstalk between the Intestinal Epithelium and the Endocrine System in the Pathogenesis and Treatment of Metabolic Diseases**

Saturday April 22, 2023, 1:30 p.m.- 3.00 p.m. Pacific Daylight Time (PDT)

Room 201B, Long Beach Convention and Entertainment Center

Chair: Stephen Keely and Stephanie King

### **Crosstalk and Microbiome in Epithelial Organs**

Saturday, April 22, 2023, 3:30 p.m. - 5:00 p.m. Pacific Daylight Time (PDT)

Grand Ballroom I, Long Beach Convention and Entertainment Center

Chair: Timo Rieg, Co-chair: Raz Abdulqadir



## The Epithelial Transport Group Trainee Advisory Committee (TAC)

The ETG supports trainees and young investigators in many different ways! **Follow the Epithelial Transport Group on Facebook and Twitter and never miss a thing!**

Everything about ETG –sponsored sessions at Experimental Biology, the annual ETG pre-EB meeting for young investigators, a hand-picked selection of relevant publications as well as important information on awards, meeting deadlines and everything of interests to trainees in the epithelial transport field! As the TAC representative, let me proudly introduce our talented members, who put a great effort to keep you in the loop!

--- Søren Brandt Poulsen



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The Trainee Advisory Committee is continuously looking for early career researchers to join the team

If you are interested, do not hesitate to contact  
Søren Brandt Poulsen

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twitter

@APSETG

## Epithelial Transport Group Steering Committee

### Arohan R. Subramanya

**ETG Chair and Member, Program**

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