

## Conference Program

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This is the seventh conference in a highly successful series which has endeavored to bring together established salivary and exocrine gland investigators, both basic and translational with promising more junior scientists and experts from associated fields. As the preeminent multi-disciplinary conference in the exocrine biology field, the overarching goal is to identify, discuss and prioritize the important future research directions pertinent to understanding the physiology and pathophysiology of exocrine glands and their secretions. In particular, to facilitate and strengthen collaborations between groups with differing strengths, but with intimately related interests, the conference will highlight the topical issues shared with researchers working in salivary and other exocrine glands including pancreas, lacrimal and lung. To these ends, the topics covered will include the molecular mechanisms involved in exocrine gland development and apoptosis, signal transduction, gene regulation together with protein and fluid secretion. The role dysregulation of these processes play in the initiation and progression of "exocrineopathies" such as Sjogrens syndrome, dry eye and pancreatitis will also be a particular feature. To encourage the participation of young investigators we intend to award a number of travel fellowships for students and postdoctoral fellows based on the quality of their submitted abstracts. To be considered for a travel award, abstracts must be submitted by Jan 2, 2009.

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### SUNDAY

- 4:00 pm - 9:00 pm    Arrival and Check-in
- 6:00 pm                Dinner
- 7:30 pm - 7:40 pm    Welcome / Introductory Comments by GRC Site Staff
- 7:40 pm - 9:30 pm    **Molecular Mechanisms of Fluid and Protein Secretion**  
Discussion Leader: **Masataka Murakami** (NIPS, Okasaki, Japan)
- 7:40 pm - 8:20 pm    **David Cook** (University of Sydney)  
"Electrolyte transport in exocrine glands after 25 years of patch-clamping and the current- loop model"
- 8:20 pm - 8:35 pm    Discussion
- 8:35 pm - 9:15 pm    **Tom Martin** (University of Wisconsin)  
"The final steps in granule exocytosis"
- 9:15 pm - 9:30 pm    Discussion

### MONDAY

- 7:30 am - 8:30 am    Breakfast
- 9:00 am - 12:30 pm   **Fluid and Electrolyte Transport**
- 9:00 am - 9:05 am    Discussion Leader: **Jim Melvin** (University of Rochester)  
"Introduction"
- 9:05 am - 9:40 am    **Ted Begenisich** (University of Rochester)  
"The Molecular Mechanism of the Interaction Between Ca-activated K Channels in Salivary Glands"

9:40 am - 9:55 am Discussion  
9:55 am - 10:25 am Coffee Break / Group Photo  
10:25 am - 11:00 am **Criss Hartzell** (Emory University)  
"Physiology and regulation of bestrophin channels"  
11:00 am - 11:15 am Discussion  
11:15 am - 11:50 am **Min Goo Lee** (Yonsei University, Seoul Korea)  
"Non-conventional trafficking and membrane expression of mutant CFTR"  
11:50 am - 12:05 pm Discussion  
12:05 pm - 12:15 pm Short Talk (TBA)  
12:15 pm - 12:20 pm Discussion  
12:30 pm Lunch  
1:30 pm - 4:00 pm Free Time  
4:00 pm - 6:00 pm Poster Session  
6:00 pm Dinner  
7:30 pm - 9:30 pm **Signal Transduction in Exocrine Gland Function**  
7:30 pm - 7:35 pm Discussion Leader: **Shumel Muallem** (UT Southwestern)  
"Introduction"  
7:35 pm - 8:05 pm **Michael Nathanson** (Yale University)  
"Talking to yourself - regulation of epithelial secretion by autocrine ATP signals"  
8:05 pm - 8:15 pm Discussion  
8:15 pm - 8:45 pm **Jason Bruce** (Manchester University, UK)  
"Functional regulation of the plasma membrane calcium pump of exocrine acinar cells in health and disease"  
8:45 pm - 8:55 pm Discussion  
8:55 pm - 9:20 pm **Roberto Weigert** (NIDCR)  
"Novel approaches to study the dynamics of endocytosis and exocytosis in the salivary glands of live rodents by using intravital two-photon microscopy"  
9:20 pm - 9:30 pm Discussion

## **TUESDAY**

7:30 am - 8:30 am Breakfast  
9:00 am - 12:30 pm **Exocrine Secretions**  
9:00 am - 9:05 am Discussion Leader: **Maria A. Kukuruzinska** (Boston University)  
"Introduction"  
9:05 am - 9:35 am **Daniel Malamud** (New York University)  
"Antiviral activities in human saliva"  
9:35 am - 9:45 am Discussion

9:45 am - 10:05 am **Sungano Mharakura** (The Malaria Institute at Macha, Choma, Zambia)  
 "Using human saliva to detect *Plasmodium falciparum* malaria infection: how real is it?"

10:05 am - 10:15 am Discussion

10:15 am - 10:40 am Coffee Break

10:40 am - 11:15 am **Gordon Laurie** (University of Virginia)  
 "Dynamic Off/On Switch for Selective Exocrine Regulation in the Lacrimal Gland"

11:15 am - 11:25 am Discussion

11:25 am - 12:00 pm **Eva Helmerhorst** (Boston University)  
 "Proteolysis in Oral Fluid: A new Paradigm of Salivary Protein Structure and Function"

12:00 pm - 12:10 pm Discussion

12:10 pm - 12:20 pm Short Talk (TBA)

12:20 pm - 12:25 pm Discussion

12:30 pm Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 6:00 pm Poster Session

6:00 pm Dinner

7:30 pm - 9:30 pm **Exocytosis**

7:30 pm - 7:35 pm Discussion Leader: **John Williams** (University of Michigan)  
 "Introduction"

7:35 pm - 8:05 pm **Sarah Hamm-Alvarez** (University of Southern California)  
 "Rab27 and Myo5 isoforms in lacrimal gland secretory vesicle exocytosis"

8:05 pm - 8:15 pm Discussion

8:15 pm - 8:45 pm **Guy Groblewski** (University of Wisconsin)  
 "D52 modulates a novel Ca<sup>2+</sup>-sensitive post-Golgi apical membrane trafficking pathway involved in secretion"

8:45 pm - 8:55 pm Discussion

8:55 pm - 9:20 pm **Konosuke Kumakura** (Sophia University, Japan)  
 "Involvement of myosin in the vesicle recruitment for exocytosis: Studies with amperometry and HRSEM"

9:20 pm - 9:30 pm Discussion

**WEDNESDAY**

7:30 am - 8:30 am Breakfast

9:00 am - 12:30 pm **Inflammation and Disease in Exocrine Glands**

9:00 am - 9:05 am Discussion Leader: **Darlene Dartt** (Harvard University)  
 "Introduction"

9:05 am - 9:35 am **Luke Dawson** (University of Liverpool)  
"Salivary Acinar Cell Pathophysiology in Sjogrens Syndrome"

9:35 am - 9:45 am Discussion

9:45 am - 10:05 am **Seunghye Cha** (University of Florida)  
"Salivary gland pathogenesis of Sjogren's syndrome prior to disease onset"

10:05 am - 10:15 am Discussion

10:15 am - 10:40 am Coffee Break

10:40 am - 11:10 am **Ashok Saluja** (University of Minnesota)  
"New Paradigms in the Pathogenesis of Acute Pancreatitis"

11:10 am - 11:15 am Discussion

11:15 am - 11:45 am **Alexei Tepikin** (University of Liverpool)  
"Visualizing pancreatic damage - cell signaling, vacuoles and mitochondria"

11:45 am - 11:55 am Discussion

11:55 am - 12:15 pm **Ana Cotrim** (NIDCR)  
"Approaches to prevent and recover salivary glands from irradiation damage"

12:15 pm - 12:25 pm Discussion

12:30 pm Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 6:00 pm Poster Session

6:00 pm Dinner

7:00 pm - 7:30 pm Business Meeting  
(Nominations for the next Vice Chair; Fill out Conference Evaluation Forms; Discuss future Site & Scheduling preferences; Election of the next Vice Chair)

7:30 pm - 9:30 pm **Exocrine Gland Damage and Repair**

7:30 pm - 7:35 pm Discussion Leader: **Kirsten Limesand** (University of Arizona)  
"Introduction"

7:35 pm - 8:05 pm **Austin Mircheff** (University of Southern California)  
"Contradictory Signals in Counterpoise Maintain the Lacrimal Gland's Immunohomeostasis . . . Usually"

8:05 pm - 8:15 pm Discussion

8:15 pm - 8:45 pm **Robert Coppes** (University of Groningen)  
"Rescue of Salivary Gland Function after Stem Cell Transplantation in Irradiated Glands"

8:45 pm - 8:55 pm Discussion

8:55 pm - 9:20 pm **David Ann** (City of Hope Medical Center)  
"Autophagy and Salivary Adaptive Responses"

9:20 pm - 9:30 pm Discussion

## **THURSDAY**

7:30 am - 8:30 am Breakfast

9:00 am - 12:30 pm **Exocrine Gland Development**

9:00 am - 9:05 am Discussion Leader: **Catherine Ovitt** (University of Rochester)  
"Introduction"

9:05 am - 9:40 am **Deborah Andrews** (Johns Hopkins University)  
"Insights into tube size control from the Drosophila embryo"

9:40 am - 9:50 am Discussion

9:50 am - 10:10 am **Melinda Larson** (University at Albany, SUNY)  
"ROCK Signaling in Salivary Gland Development and Tissue Engineering"

10:10 am - 10:20 am Discussion

10:20 am - 10:45 am Coffee Break

10:45 am - 11:20 am **Lee Niswander** (University of Colorado, Denver)  
"Using imaging and gene knockdown to study the mechanisms of lung branching morphogenesis"

11:20 am - 11:30 am Discussion

11:30 am - 12:05 pm **Andrew Ewald** (University of California, San Francisco)  
"Cellular mechanisms of mammary branching morphogenesis revealed by correlative high resolution transmission electron microscopy and 3D time-lapse confocal microscopy"

12:05 pm - 12:15 pm Discussion

12:15 pm - 12:25 pm Short Talk (TBA)

12:25 pm - 12:30 pm Discussion

12:30 pm Lunch

1:30 pm - 6:00 pm Free Time

6:00 pm Dinner

7:30 pm - 9:30 pm **Stem Cells and Exocrine Gland Regeneration**

7:30 pm - 7:35 pm Discussion Leader: **Matthew Hoffman** (NIDCR)  
"Introduction"

7:35 pm - 8:15 pm **Cheng-Ming Chuong** (University of Southern California)  
"Macro-environmental regulation of ectodermal organ stem cells"

8:15 pm - 8:30 pm Discussion

8:30 pm - 9:15 pm **Mina Bissell** (Lawrence Berkeley National Laboratory)  
"Tissue architecture is the message: The role of extracellular matrix and organ architecture"

9:15 pm - 9:30 pm Discussion

**FRIDAY**

7:30 am - 8:30 am    Breakfast

9:00 am                Depart

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