Message from the Renal Section Chair

Bill Welch

The Renal Section has had another productive year and the highlights will be celebrated at the annual meeting of the American Physiological Society at the EB meeting in Anaheim, California. The number of abstracts has increased and the planned sessions will review the most recent and exciting research in renal physiology. The Program Committee (Tom Pallone and David Weiner) has prepared an excellent slate of topics and presentations (see below on pages 5-7). The highlight of the meeting will be the Carl W. Gottschalk Lecture presented by P. Darwin Bell. There is still time to nominate a colleague for the 2011 Gottschalk lecture. Contact me with your ideas and a brief description of the nominee.

I want to remind everyone to attend the Renal Section dinner on April 27. The focus of the dinner is the presentation of the trainee awards. Also the Robert W. Berliner award will be presented to Qais Al-Awqati for his years of scientific excellence in renal physiology.

In preparation for 2011, everyone should keep in mind that the Renal Section will program over 3 days at this meeting (Sun, Mon, Tues). Therefore the Renal Dinner and awards will be presented on Monday evening, which is a departure from previous years. Make your plans accordingly.

Hope to see everyone in Anaheim.

New Steering Committee Members
The Renal Section introduces Erika Boesen (Medical College of Georgia) as the new secretary, and Jennifer Pluznick (Johns Hopkins University) as the new representative to the Joint Programming Committee (JPC). We welcome these two members to the leadership of the Section and look forward to their input.

2010 Robert W. Berliner Award for Excellence in Renal Physiology
Sponsored by Abbott Laboratories

Qais Al-Awqati is the recipient of the 2010 Berliner Award. Dr. Al-Awqati's work on acid-base physiology, particularly in the collecting duct, has advanced our understanding of key transport processes in this important area of renal physiology. Dr. Al-Awqati was born in Baghdad, Iraq, and graduated from the College of Medicine at the University of Baghdad. He completed his Medicine and
Nephrology training at Johns Hopkins University and Massachusetts General Hospital from 1968 to 1971. Following brief academic appointments at Harvard and the University of Iowa, he established his career at Columbia University, starting in 1977. He has served as Chief of the Division of Nephrology and holds the Robert F. Loeb Professorship in Medicine. Dr. Al-Awqati has published extensively in high-impact journals and is currently Editor-in-Chief of *Kidney International*.

Dr. Al-Awqati's earliest work made important observations regarding ion transporters in the intestinal mucosa and their regulation by enteric toxins. After establishing his laboratory, he began to concentrate on understanding epithelial H⁺ secretion and acidification processes, which became a lifelong pursuit. His work focused on the link between proton secretion and respiration, and on the regulation of proton secretion by aldosterone and glucose oxidation. Dr. Al-Awqati demonstrated that CO₂-stimulated H⁺ secretion is due to exocytosis of vesicles containing H⁺ pumps, with the insertion of H⁺ pumps into the luminal membrane.

In addition to his work on epithelial H⁺ secretion, Dr. Al-Awqati has made important contributions to other areas of renal physiology. One of his earliest publications in *Nature* was on the mechanism of vasopressin action. He has identified renal stem cells in metanephric mesenchyme and has identified a novel class of intracellular chloride channels, the CLIC family. While Dr. Al-Awqati has made major advances in understanding key transport processes, perhaps his greatest contributions are his studies demonstrating plasticity of intercalated cells and cellular mechanisms underlying this phenomenon. He observed that, in response to prolonged acid exposure, HCO₃⁻-secreting β-intercalated cells in the collecting duct convert to H⁺-secreting α-intercalated cells. This theoretic work was demonstrated with in vivo models. Mechanistic studies that followed showed that this terminal differentiation of intercalated cells is regulated by the extracellular matrix protein hensin. It is the polymerized form of hensin that mediates this process, and Dr. Al-Awqati has identified key factors that facilitate hensin polymerization. These and many other aspects of Dr. Al-Awqati's work have provided important contributions to our modern view of acid-base metabolism.

The Berliner Award selection committee was composed of Bill Welch (Renal Section Chair), Pablo Ortiz (Renal Section Awards Chair), and Tom Kleyman, (Editor-in-Chief, *American Journal of Physiology-Renal Physiology*).

**2010 Carl W. Gottschalk Distinguished Lectureship of the APS Renal Section**

The Carl W. Gottschalk Lecture for 2010 will be delivered by **Phillip Darwin Bell**, PhD, on April 27, 2010, at the Annual Meeting of the American Physiological Society (APS) in Anaheim, California. Dr. Bell will present his perspectives on his work into cell signaling in the nephron that regulates tubuloglomerular feedback.

Dr. Bell received his PhD in 1980 from the University of Alabama at Birmingham (UAB) in Physiology and Biophysics. He joined the faculty at UAB, rising through the ranks to become Professor of Medicine and Physiology in 1997. He was appointed to the Thomas E. Andreoli Professorship at UAB in 2003. In 2006, he joined the faculty at the Medical University of South Carolina, Charleston, South Carolina. He
holds an endowed Chair in Medicine and is the Director of Renal Research for the Division of Nephrology.

Dr. Bell has made significant contributions to an understanding of the regulation of renal hemodynamics. His early work that demonstrated the intercellular calcium changes in the macula densa were linked to signal transduction for tubuloglomerular feedback (TGF) was published in *Science* in 1982. From this early success, his work has continued to provide insights into the cellular mechanisms and transport events that are involved in macula densa cell signaling to the afferent arteriole. His TGF studies have specifically shown that macula densa cells utilize a purinergic-ATP/adenosine receptor-signaling pathway to communicate with other elements within the juxtaglomerular apparatus. These observations have advanced our understanding of how signals are processed in this key regulator of glomerular filtration rate. He has made these discoveries with innovative technologies that utilized a combination of multiphoton confocal fluorescence microscopy, molecular biology, and patch clamp technology.

Recently, he has begun to define the role of epithelial cilia in renal physiology and pathologies. He has shown that cilia have a critical signaling role for calcium uptake in distal tubule cells, which may be lost in polycystic kidney disease. In addition, his work suggests that cilia may also play a critical role in the regulation of renal hypertrophy that occurs in response to a reduction in renal mass.

The Carl W. Gottschalk Lecture committee was composed of Bill Welch (Renal Section Chair), Tom Kleyman (Editor-in-Chief, *American Journal of Physiology-Renal Physiology*), Tom Pallone (JPC representative), and David Pollock (APS Council).

**2010 Young Investigator Award**

**Pablo A. Ortiz**, PhD, is the recipient of the 2010 Young Investigator Award for Excellence in Renal Physiology. He is an Associate Professor in the Hypertension and Vascular Research Division of the Henry Ford Hospital, Detroit, Michigan.

Dr. Ortiz received his PhD from the University of Buenos Aires after completing work for his dissertation under the supervision of Jeff Garvin in the Hypertension and Vascular Research Division at the Henry Ford Hospital. After additional postdoctoral training, he joined Henry Ford Hospital as an Assistant Professor in 2005. His research has focused on transport mechanisms in the thick ascending limb (TAL). He originally described the relationship between superoxide and nitric oxide synthase 3 in the regulation of TAL transport. More recently, he has worked on molecular mechanisms of the apical cotransporter NKCC2 and its role in salt-sensitive hypertension. Dr. Ortiz was one of the first to combine the isolated, perfused nephron segment technique with confocal microscopy to study protein trafficking in the nephron. He was also instrumental in the development of an in vivo gene transfer method to transduce renal medullary tubules and is currently using this method to express transgenes, such as dominant negative mutants and fluorescent proteins, and silence gene expression in TALs.

Dr. Ortiz's work is supported by National Institutes of Health (NIH) grants, and he has published 27 studies in high-impact journals. His early work and potential have been recognized in numerous awards. He received the Young Investigator Awards from both the Inter-American Society of Hypertension and the Council of High Blood Pressure Research of the American Heart Association (AHA) and the New
Investigator Awards from the AHA and the Renal Section of the American Physiological Society (APS). He received the 2006 Lazaro J. Mandel Young Investigator Award from the APS. He has assumed leadership roles in the APS as a member of the Editorial Board of the *American Journal of Physiology-Renal Physiology* and Awards Chair of the Renal Section. He participates in numerous study sections of the NIH and AHA. Dr. Ortiz is an outstanding young investigator and worthy recipient of the Renal Section Young Investigator Award.

The Young Investigator Award selection committee was composed of Lee Hamm (Renal Section Treasurer) and Tom Pallone and I. David Weiner (JPC representatives).

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**2010 Renal Section Awards**

**Pablo Ortiz, Awards Committee Chair**

The Renal Section is proud to have the opportunity to support and honor the careers of young investigators and trainees. The number of applicants who submitted their work for Excellence in Renal Research Awards was outstanding once again for EB 2010. We received abstracts from 26 pre-doctoral students and 33 post-doctoral fellows. Finalists will undergo a second round of evaluation during the Posters & Professors Reception at the EB 2010 meeting on Sunday, April 25, 5:30 pm at the Orange County Ballroom Salon 3/4, Anaheim Marriott. Finalists’ posters can also be visited during each day of the meeting. The Renal Section will post a plaque in the aisles listing the poster numbers and presentation times for the student and postdoctoral finalists.

**Finalists for the predoctoral category are:**

- Paulo Caceres, Henry Ford Hospital
- Daniel Collier, University of Iowa
- Renato Crajoinas, University of Sao Paulo, Brazil
- Ruwan Gunaratne, LKEM, NIH
- Mohammed Saleh, Medical College of Georgia

**Finalists for the postdoctoral category are:**

- Pablo Cabral, Henry Ford Hospital
- Paul Grimm, University of Nebraska
- Kelly Hyndman, Medical College of Georgia
- Mariela Mendez, Henry Ford Hospital
- Yanhua Wang, Emory University

Congratulations to the finalists. Awards will be presented during the annual Renal Dinner. We encourage everyone to drop by the EB10 poster presentations, and to come to the Renal Dinner to support these young investigators.

Congratulations to the recipients of the Renal Research Recognition Award.

**Renal Research Recognition Award winners are:**

- Adriana Girardi, University of Sao Paulo, Brazil
- Oleh Pochynyuk, University of Texas San Antonio
- Guillermo Silva, Henry Ford Hospital/IPEM Cordoba, Argentina
- Yuehan Zhou, Case Western Reserve University

**Renal Section New Investigator Award**

Congratulations to Alexander Staruschenko from the Department of Physiology at the Medical College of Wisconsin as the recipient of the Renal Section New Investigator Award.
The *American Journal of Physiology: Renal Physiology* has finally seen a plateau in the number of submitted manuscripts. We received 600 submissions in 2009, compared with 615 submissions in 2006. Our average time from acceptance to final print publication is 2.1 months. Congratulations to Jian-Kang Chen and his colleagues, whose manuscript was selected as the Paper of the Year: Jian-Kang Chen, Jianchun Chen, George Thomas, Sara C. Kozma, and Raymond C. Harris. S6 kinase 1 knockout inhibits uninephrectomy- or diabetes-induced renal hypertrophy. *Am J Physiol Renal Physiol* **297**: F585-F593, 2009. Congratulations to our Star Reviewers for 2009: Janos Peti-Peterdi, David Basile, Eleanor Lederer. The journal has a call for papers in the area of renal hemodynamics. On a final note, the Associate Editors and I encourage you to send your best work to the journal.

Thanks to the renal community for the submissions of abstracts and excellent proposals for symposia. We continue to encourage the renal community to submit symposium proposals for the Experimental Biology Meetings. This is a great opportunity to organize friends and colleagues working in areas allied with your interests to give talks highlighting their work. Complementary registration and additional funds to help with travel expenses are part of the package. To initiate the process, a PDF form is available from the APS site at [http://www.the-aps.org/meetings/eb.htm](http://www.the-aps.org/meetings/eb.htm). Fill it out and send it to us. We encourage investigators at all stages of career to become organizers and particularly hope that junior investigators will become involved. Please help keep the exciting and innovative symposia in the pipeline!

We received 131 abstracts for presentation at EB 2010 in Anaheim. Current details of the program are available at: [http://www.the-aps.org/meetings/eb10/index.htm](http://www.the-aps.org/meetings/eb10/index.htm). Among the many events, the following may be of particular interest to members of the renal community.
Saturday April 24th

2:00 PM-4:30 PM
Workshop: Hot Topics in Renal Microvascular Control
Sponsored by: Microcirculatory Society; Chaired: Edward Inscho and William F. Jackson

5:45 PM-6:45 PM
Physiology in Perspective -- The Walter B. Cannon Memorial Award Lecture
Chaired: J.J. Fredberg

Sunday, April 25

8:00 AM-10:00 AM
Featured Topic: Autoregulation and Renal Injury
Sponsored by: Water and Electrolyte Homeostasis; Chaired: Heather Drummond

8:00 AM-10:00 AM
Featured Topic: Regulation of Ion and Water Channels
Sponsored by: Epithelial Transport Group; Chaired: Roger Worrell and Peter Snyder

10:30 AM-12:30 PM
Symposium: Update on Prorenin and Its Receptor
Sponsored by: Renal Section; Chaired: Janos Peti-Peterdi and Genevieve Nguyen

3:15 PM-5:15 PM
Ion Channels and Transporters
Featured Topic: Renal Section Abstract-driven Featured Topic
Sponsored by: Renal Section

Monday, April 26

8:00 AM-10:00 AM
Featured Topic: Renal Section Young Investigator Awardee Featured Topic
Sponsored by: Renal Section; Chaired: Pablo Ortiz

8:00 AM-10:00 AM
Track: Blood Pressure Regulation
Featured Topic: Neural Control of Blood Pressure and Fluid Volume Homeostasis: Sodium Metabolism
Sponsored by: Water and Electrolyte Homeostasis; Chaired: Thomas Cunningham

3:15 PM-5:15 PM
Symposium: Humoral Factors in Renal Injury and Hypertension
Chaired: Joey P. Granger

Tuesday, April 27

8:00 AM-9:00 AM
Carl W. Gottschalk Distinguished Lectureship of the APS Renal Section
Chaired: P. Darwin Bell
10:30 AM-12:30 PM
Physiology InFocus: Physiology and Biomedical Engineering: Partners in Translational Research
Symposium: One Hundred Years of Starling: His Contributions to Physiology
Chaired: Jane F. Reckelhoff and Rafael Rubio

3:15 PM-5:15 PM
Track: Metabolism and Metabolic Diseases
Symposium: Mouse Models of Diabetic Renal Disease
Sponsored by: Renal Section; Chaired: Lisa M. Harrison-Bernard and Christine Maric

**Wednesday, April 22**

8:00 AM-10:00 AM  Track: Blood Pressure Regulation
A. Clifford Barger Memorial Symposium: New Insights into the Relationship Between Sodium Metabolism and Blood Pressure Regulation
Sponsored by: Water and Electrolyte Homeostasis; Chaired: Peter Bie and Michael H. Humphreys

10:30 AM-12:30 PM
Featured Topic: Renal Section Abstract-driven Featured Topic
Sponsored by: Renal Section

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**APS Trainee Advisory Committee (TAC)**

*Rick Grimm*

The Trainee Advisory Committee (TAC) of the American Physiological Society has assembled a special issue of the trainee newsletter to highlight sessions and events relevant to undergraduate students, graduate students, postdoctoral fellows, and young investigators held at the upcoming EB Meeting. Please double-check the final program for specific times and places. Also, don’t forget to purchase tickets for your section dinner. The dinners are a great way of putting faces to the many names you have heard and to meet other trainees. From all of the TAC members, we look forward to seeing you in Anaheim.

For the special issue of the Trainee Newsletter for Experimental Biology (EB), April 24-28, 2010 in Anaheim, CA please visit [http://www.the-aps.org/trainees/index.htm](http://www.the-aps.org/trainees/index.htm).

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**APS Conferences**

*Darwin Bell*

The purpose of the APS Conference Committee is to facilitate, improve, and energize APS Conferences. To simplify the application process, an online submission site within the APS website is now up and This site contains information on APS Conferences, instructions on how to organize a meeting, and the application procedure, which consists of providing an overall meeting abstract and minimal
additional details. Application deadlines will be April 1, August 1, and December 1. Anyone who is a member of APS can submit an application for an APS Conference. For more information please contact: P. Darwin Bell, Chair at BellPD@musc.edu or Linda Allen, APS Representative at: LAllen@The-APS.org.

News and Announcements

Two animal research sessions planned for EB 2010

The American Physiological Society's Animal Care and Experimentation Committee (ACE) will sponsor two events at the Experimental Biology 2010 meeting in Anaheim. The first is a symposium on a variety of tactics that are being used to harass and intimidate those whose research involves animals. This session is intended to help researchers educate themselves to minimize risk and increase public support for their work. The second event is an informal discussion where researchers who serve on animal care and use committees can discuss regulatory challenges they are facing. Both sessions are open to scientists from all societies who are registered for the EB meeting.

“Trends in Animal Rights Activism and Extremism” will be held from 3:15-5:45 on Saturday, April 24, 2010 in Room 303B of the Anaheim Convention Center. Animal rights activists now frequently make requests for information under the federal Freedom of Information Act or state open records laws. These are laws intended to promote openness in government, which means that in most cases the information must be released unless it falls under specific exemptions. Due to concerns about how this information might be used, UCLA Senior Counsel Amy Blum has been asked to discuss how researchers and their institutions can minimize this risk. In recent years, the radical fringe of the animal rights movement has increasingly adopted violent tactics pioneered by animal rights extremists in the U.K. The second speaker will be University of Iowa Director of Animal Resources Paul Cooper, who will discuss how institutions should prepare themselves to respond effectively to an animal rights break-in. Due to a growing recognition among researchers that keeping a low profile does not provide protection against activists, the symposium will feature two talks on public outreach. UCLA neuroscientist David Jentsch, who organized the first large scale U.S. march in support of humane animal research, will discuss ways for scientists to become pro-active research advocates. In addition, UCLA neurobiology doctoral candidate Megan Wyeth will discuss public outreach for the early career scientist. Jentsch founded an organization at UCLA called Pro-Test for Science, and Wyeth has received a Michael D. Hayre Fellowship in Public Outreach from Americans for Medical Progress to assist other institutions in establishing Pro-Test chapters. Therefore, the last half hour of the session will be an informal discussion with Jentsch and Wyeth for those interested in establishing a Pro-Test for Science chapters.

“The Challenges of Running an IACUC: An Open Forum for IACUC Chairs and Members” will be held in Salon J-K of the Anaheim Marriott from 7:30-9 a.m. on Tuesday, April 27. This will be an informal event that is intended to promote discussion among IACUC chairs and members about regulatory challenges they face. There are no scheduled speakers because the purpose of this session is to foster an open exchange of ideas and experiences. Attendees are encouraged bring questions and a willingness to brainstorm solutions with others. Current and former IACUC members as well as those interested in regulatory matters are welcome to attend.
Renal Dinner 2009

WHERE:  Disney's Paradise Pier Hotel  
1717 S. Disneyland Drive, Anaheim, CA 92802  

WHEN:  Tuesday, April 27, 2010  
Cocktail Reception at 6:00 PM  
Dinner at 7:00 PM

COST:  $60 for Faculty and Guests  
$30 for Student/Postdoctoral Trainees

MENU:  
1. Loch Duart Salmon Filet  
2. Citrus Brined Breast of Chicken  
3. Vegetarian tian, green and yellow squash, red and green peppers, white rice with carmelized onions, veggie sauce, balsamic glaze.

Please contact John Imig if you have any special dietary restrictions: jdimig@mcw.edu.

HOW:  A few tickets will be available at the APS office in the Anaheim Marriott

QUESTIONS:  
John Imig, Renal Section Banquet Organizer: jdimig@mcw.edu  
Catherine Ohnmacht, APS Sections Administrator: cohnmacht@the-aps.org; or 301-634-7976.
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