Renal Section Newsletter

Spring 2009

János Peti-Peterdi, Editor

Message from the Renal Section Chair

Bill Welch

The Renal Section has organized another outstanding program at the 2009 EB meeting. The details are available below, but are highlighted by lectures from the Gottschalk Award recipient, Dr. Rene Bindels and the Young Investigator Award winner, Dr. Heddwen Brooks. These and other award winners will be recognized at the Renal Dinner on April 21 (Plimsoll Room in the World Trade Center on 2 Canal Street). Dr. Jürgen Schnermann is the Berliner Award recipient and will be recognized at the Renal Dinner.

Program Changes in the Future

The APS is changing the distribution of symposia and featured topics for the first time since 1993. Subsequently the Renal Section will lose 1 symposium for EB 2010. Currently we have 3 Symposia, 3 Featured Topics and 1 Featured Lecture. However the Renal Section Steering Committee is exploring alternatives for 2011, which may include more participation in the last day of the meeting (usually Wednesday). The inclusion of Wednesday as a full meeting day has emerged from the growth of the meeting over the last several years. In order to maintain our current level of programming we may need to consider Wednesday sessions. We would like to get feedback from the membership of the Renal Section and will soon formulate a questionnaire for full distribution. A brief report describing the proposal will precede the questions.

Renal Dinner Support

Continuing the tradition started by the last Chair, Pam Carmines we have sought support for the Renal Dinner and participation of trainees. I am glad to report that we have received generous gifts from 4 academic units to help make it possible for awardees and trainees to attend the dinner. These include gifts from Departments of Physiology at Mayo Clinic (Dr. Gary Sieck) and the University of Florida (Dr. Charlie Wood) and the Division of Nephrology at Emory University (Dr. Jeff Sands) and the Hypertension Center at the University of Florida (Dr. Christine Baylis). We thank these leaders for their kind consideration of our training and recognition efforts.

New Steering Committee Members

The Renal Section introduces I. David Weiner (University of Florida) at the new representative to the Joint Programming Committee (JPC). John Imig (Medical College of Wisconsin) was elected as the new Treasurer of the Renal Section. We welcome these two leaders to the leadership of the Section and look forward to their input.

Nominations

I would like to remind the Renal Section member to nominate candidates for next year's Gottschalk and Young Investigator Awards.

Go to http://www.the-aps.org/meetings/eb09/awards/renal.htm for information and applications. The deadline is April 13.

I invite all Renal Section members to utilize the information provided in this newsletter as a springboard for planning your EB meeting, and I look forward to seeing everyone in New Orleans!

2009 Robert W. Berliner Award for Excellence in Renal Physiology
Sponsored by Abbott Laboratories

Dr. Jürgen Schnermann, M.D. has been named the 2009 recipient of the Robert W. Berliner Award for Excellence in Renal Physiology, sponsored by Abbott Laboratories and presented by the Renal Section of the American Physiological Society. Established in 1993, with Carl W. Gottschalk as the first recipient, the Berliner Award is the most prestigious award of the Renal Section. The award annually honors a distinguished scientist who has made major contributions to the field of renal physiology over a lifetime, including accomplishments in research, teaching, training and activities within the American Physiological Society. Dr. Schnermann will receive the award at the Renal Dinner on Tuesday, April 21, 2009.

Dr. Schnermann received the M.D from the University of Freiberg in 1962 and competed post-doctoral training in physiology at the University of Gottingen and Cornell University. He joined the faculty at the Institute of Physiology at the University of Munich, where he quickly rose to Professor of Physiology. He joined the faculty of the Department of Physiology at the University of Michigan in 1985. He became a Senior Investigator in the Kidney Diseases Branch of the National Institute of Health in 1998. During his academic career he also established visiting professor tenures at University of Uppsala, Yale, Cleveland Clinic, University of Ottawa, University of Texas and Heidelberg University.

Dr. Schnermann is an internationally recognized leader on the juxtaglomerular apparatus (JGA)-dependent control of sodium and fluid balance. The JGA is a unique anatomic structure that links the thick ascending limb of the loop of Henle with the glomerular vascular pole. This structure severs two purposes in the regulation of sodium balance. One is the feedback control of vascular tone, called tubuloglomerular feedback (TGF); the other is NaCl-dependent control of renin secretion and synthesis. His early work helped define these control systems and has shown the importance of JGA regulated salt and fluid balance. In addition to the exploration of the regulation of single nephron GFR via TGF, Dr. Schnermann almost single-handedly developed the bulk of the technology associated with micropuncture. His technical expertise has made this a reliable and discrete technology to evaluate single nephron function and TGF. He was a true pioneer who solved many technical issues and refined the technique for a generation of investigators.

More recently Dr. Schnermann has been an innovator in genetic engineering, using several gene-targeting methods to identify key players in JGA-related regulation. Using various gene knockout mice, he characterized a large number of regulators, including the angiotensin 1A receptor, the adenosine 1 receptor, neuronal and endothelial nitric oxide synthases, phospholipase A2 and cyclooxygenase-2 in control of renin, renin gene expression and renal hemodynamics. He has also used these methods to identify the key role of adenosine receptors in mediation of TGF. He continues to use genetic targeting to study various transporters and intracellular mediators that affect salt and fluid balance.

Dr. Schnermann's research has advanced our understanding of the regulation of glomerular filtration dynamics, tubuloglomerular feedback and the control of renin. He has published over 215 peer-reviewed manuscripts and nearly 90 book chapters and review articles. Dr. Schnermann's work has been recognized by multiple NIH supported grants and numerous awards. He was the E.H. Starling Lecturer of the Water and Electrolyte Section of the American Physiological Society in 1997 and the Robert W. Berliner Lecturer at Yale in 2001. He was awarded the prestigious Homer W. Smith Award of the American Society of Nephrology in 2005 and the Robert F. Pitts Award at the International Union of Physiological Sciences in 2005. Dr. Schnermann has trained a long list of scientists who have established independent research careers. He has been active in leadership roles in the APS, ASN and AHA.

The APS Renal Section's Berliner Award Committee was composed of Pablo Ortiz (Renal Section Awards Chair), William J. Welch (Renal Section Chair) and Thomas Kleyman (Editor, *American Journal of Physiology Renal Physiology*).

2009 Carl W. Gottschalk Distinguished Lectureship of the APS Renal Section

Rene Bindels, Ph.D. has been awarded the Carl W. Gottschalk Distinguished Lecturer of the American Physiological Society Renal Section for 2009. Dr. Bindels will deliver his lecture, "A TR(i)P through the world of renal calcium and magnesium channels" during a Plenary Lecture session at the Experimental Biology Meeting in New Orleans, Louisiana. Dr. Bindels will be honored at the Renal Section Dinner on April 21, 2009.

Dr. Bindels has studied renal transport mechanisms throughout his career, focusing on calcium and magnesium transport systems in the kidney and small intestine. He has also explored pathologies related to mutations of several other renal transporters, such as NKCC2, NCC, and ROMK2. He has made major advances on understanding calcium channels and has identified the major cites of calcium uptake along the nephron. He has been a pioneer in the recognition of the new family of calcium and magnesium TRP channels. He has made significant observations on the transient receptor potential channels TRPV5, TRPV6, TRPM6 and TRPM7 in particular.

He has been one of the most prolific investigators in the transporter field, with over 200 publications in just 18 years. His work has been published in outstanding journals and his studies are often cited as key advances on understanding calcium, magnesium and TRP channels. He has been a versatile investigator who has used a multiple discipline approach, including established epithelial cell lines, tissue-specific knockout mice models, and electrophysiological and biochemical analysis of channel activity.

Dr, Bindels is also an outstanding educator who has mentored 23 doctorates in 15 years at the Nijmegen Medical Centre. He is responsible for several physiology courses for medical and health science students and is currently Chair of Physiology. He is an elected member of the Academia Europaea.

The Gottschalk selection committee was composed of Pam Carmines (Chair of the Renal Section), Thomas Kleyman (Editor of AJP Renal), Sue Mulroney (JPC Representative) and David Pollock (APS Council).

Nomination Deadline April 13, 2009:

2010 Carl W. Gottschalk Distinguished Lectureship
and
Young Investigator Award of the APS Renal Section

For details about these awards and to place a name in nomination, visit our awards website (http://www.the-aps.org/meetings/eb09/awards/renal.htm)

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2009 AstraZeneca Young Investigator Award

Heddwen Brooks, Ph.D is the recipient of the 2009 AstraZeneca Young Investigator Award for Excellence in Renal Physiology. This award is presented by the Renal Section of the American Physiological Society and sponsored by AstraZeneca Pharmaceuticals. Dr, Brooks will deliver her award lecture at the Experimental Biology Meeting in New Orleans.

Dr. Brooks received her Ph.D. from the Imperial College of Science, Technology and Medicine, University of London, U.K. She started her post-doctoral training at the University of Arizona with Dr. A.J. Yool working on the molecular and pharmacological characterization of aquaporins. She continued post-doctoral training in the Laboratory of Kidney and Electrolyte Metabolism at NIH with Dr. Mark Knepper working primarily on the molecular physiology of renal salt and water transporters. She joined the Department of Physiology at the University of Arizona as an Assistant Professor in 2001. Dr. Brooks was one of the first to use cDNA arrays and proteomic profiling to identify several genes and proteins that are regulated by osmolality and vasopressin in the renal medulla. She has also identified renal medullary genes and proteins that are altered in transgenic mice such as the aquaporin 1, AT1-receptor, NHE3 and NCC knockout mice. Her current research addresses the regulation of gene expression, cell proliferation and endoplasmic reticulum stress in renal medullary cells by vasopressin and osmolarity. She is also focusing her research to early diabetic kidney damage during menopause.

Dr. Brooks has been recognized with numerous awards, including the Lazaro Mandel Young Investigator and the APS New Investigator. She serves on the AJP Renal Editorial Board and the Women in Nephrology Board.

The Young Investigator Award committee was composed of Lee Hamm (Treasurer, Renal Section), Sue Mulroney and Tom Pallone (JPC Representatives).

2009 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 2009. We received abstracts from 20 pre-doctoral students and 27 post-doctoral fellows. Finalists will undergo a second round of evaluation during the Posters & Professors Reception at the EB 2009 meeting on Sunday, April 19, 5:30 pm at the Cambridge Room, Hilton New Orleans Riverside. Finalists' posters can also be visited during each day of the meeting. The Renal Section will post a placard in the aisles listing the poster numbers and presentation times for the student and postdoctoral finalists.

Finalists for the predoctoral category are:

Daniel Collier, University of Iowa
Megan Greenle, University of Florida
Paul Grimm, University of Nebraska Medical Center
Sungmi Park, LSU Health Sciences Center
Guillermo Silva, Henry Ford Hospital

Finalists for the postdoctoral category are:

Romer Gonzalez-Villalobos, Tulane University Health Sciences Center
Zhengrong Huang, Medical College of Georgia
Arnaldo Lopez-Ruiz, University of Mississippi Medical Center
Cecilia Ortiz-Capisano, Henry Ford Hospital
Marcia Venegas-Pont, University of Mississippi Medical Center

Congratulations to the finalists. Awards will be presented during the annual Renal Dinner. We encourage everyone to drop by the EB09 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:

Claire Peppiatt-Wildman, The Royal Veterinary College
Reena Rao, Vanderbilt University Medical Center
Timo Rieg, UCSD and VA San Diego Healthcare System
Alexander Staruschenko, Medical College of Wisconsin

Renal Section New Investigator Award

Congratulations to Nuria Pastor-Soler from the Renal-Electrolyte Division University of Pittsburgh as the recipient of the Renal Section New Investigator Award.

All Renal Section Members, Postdoctoral Fellows and Graduate Students are invited to the "Posters & Professors" reception sponsored by the APS Renal section on Sunday April 19, 5:30-7 pm at the **Cambridge Room, Hilton New Orleans Riverside.** It will be a great opportunity to meet with the Carl Gottschalk Distinguished Lecturer, Rene Bindels, the Renal Section Young Investigator, Heddwen Brooks and the Berliner Award Winner, Jürgen Schnermann. We look forward to seeing you there!

APS Trainee Advisory Committee (TAC)
Rick Grimm

Hello Renal Section. As I have recently rotated on as your TAC representative, I would like to extend my thanks and that of all the trainee members to the former TAC representative, Jennifer Pluznick, for all of her hard work.

The TAC is again sponsoring a session at the upcoming Experimental Biology Meeting entitled: Mentoring Strategies: Beyond the Bench (Monday, April 20 — 8:00 AM-10:00 AM at the Ernest N. Morial Convention Center, Room 242). Based on the outcome of the Trainee Advisory Committee Survey, the TAC has identified laboratory management skills as a necessary, but often neglected, component of trainee education. Speakers L. Gabriel Navar, Virginia Miller, Cathy Quinones, and Eldon J. Braun will discuss methods to effectively communicate, supervise/mentor, and manage the diverse array of situations and personalities that can arise in a laboratory environment. Previous TAC-sponsored sessions have been well received, and I would strongly encourage all Trainees to attend.

Trainees: If you haven't already done so, please visit the Trainee Web Page (http://www.the-aps.org/trainees/) and to sign up for the Trainee Listserv and the Renal Listserv. This will keep you "connected" and up-to-date on information regarding awards job postings, and other helpful information. Additionally, the TAC has recently created an APS-Trainee Facebook page to help trainees connect with one another. Just enter 'APS Trainees' in the Facebook search window to get connected or a link can be found under the Trainee tab of the APS homepage.

I look forward to serving you over the next couple of years and seeing many of you at EB. Please contact me with any question (pgrimm@unmc.edu).

Sincerely,

Rick Grimm

AJP-Renal Physiology
NEWS FROM THE EDITOR
Tom Kleyman

The *American Journal of Physiology: Renal Physiology* continues to see growth in the number of submitted manuscripts. We received 615 submissions in 2008, which represents an 10% increase over the number of submissions in 2007. The number of manuscripts published in 2008 was 349. The Associate Editors and I encourage you to send your best work to the journal. Congratulations to Fredrik Palm and his colleagues, whose manuscript was selected as the Paper of the Year: Fredrik Palm, Malou Friederich, Per-Ola Carlsson, Peter Hansell, Tom Teerlink, and Per Liss. Reduced nitric oxide in diabetic kidneys due to increased hepatic arginine metabolism: implications for renomedullary oxygen availability. Am J Physiol Renal Physiol, Jan 2008; 294: F30 - F37. Congratulations to our Star Reviewers for 2008: Pablo Ortiz, Bellamkonda Kishore, and Serena Bagnasco.

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.

Joint Programming Committee Report
Sue Mulroney & Tom Pallone

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 . 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 127 abstracts for presentation at EB 2009 in New Orleans. Current details of the program are available at: http://www.the-aps.org/meetings/eb09/ . Among the many events, the following may be of particular interest to members of the renal community.

Saturday April 18th

Chronic Instrumentation in Conscious Small Animals
Workshop Saturday, April 18 — 1:00 PM-3:00 PM
Ernest N. Morial Convention Center, Room 252-254
Chaired: **J.R. Haywood**, Michigan State Univ.
Sue Mulroney, Georgetown Univ.

Multi-Photon Imaging of Renal Regulatory Mechanisms In Vivo
Workshop Saturday, April 18 — 3:15 PM-5:15 PM
Ernest N. Morial Convention Center, Room 244
Chaired: **Moshe Levi,** University of Colorado Denver

The Walter B. Cannon Memorial Award Lecture
5:45 PM-6:45 PM
Frank Abboud

Sunday, April 19

Breaking the Diffraction Barrier in Imaging of Molecules in Living Cells
Symposium Sunday, April 19 — 10:30 AM-12:30 PM
Ernest N. Morial Convention Center, Room 243
Chaired: **Moshe Levi**, Univ. of Colorado, Denver

Ernest H. Starling Distinguished Lectureship of the APS Water & Electrolyte Homeostasis Section
3:15 PM - 4:15 PM
Alicia McDonough

Molecular Mechanisms and Genetics of Hypertension
Featured Topic Sunday, April 19 — 3:15 PM-5:15 PM
Ernest N. Morial Convention Center, Room 238
Chaired: **Rhian Touyz**, Univ. of Ottawa

Monday, April 20

Renal Section Young Investigator Award Featured Topic: Novel Mechanisms of Vasopressin Regulation on Renal Function
Featured Topic Monday, April 20 — 10:30 AM-12:30 PM
Ernest N. Morial Convention Center, Room 238
Chaired: **Heddwen Brooks**, Univ. of Arizona

Novel Approaches to Elucidate Claudin Function and Paracellular Permeability
Symposium Monday, April 20 — 3:15 PM-5:15 PM
Ernest N. Morial Convention Center, Room 235/236
Chaired: **Alan S.L. Yu and Tong Wang**

Tuesday, April 21

The Contributions of ROMK and BK Channels to Renal K Secretion
Symposium Tuesday, April 21 — 8:00 AM-10:00 AM
Ernest N. Morial Convention Center, Room 244
Chaired: **Jennifer L. Pluznick and Paul Welling**

Imaging in Renal Physiology and Pathophysiology
Featured Topic Tuesday, April 21 — 8:00 AM-10:00 AM
Ernest N. Morial Convention Center, Room 238
Chaired: **Alejandro R. Chade and Radu Iliescu**

Carl W. Gottschalk Distinguished Lectureship of the APS Renal Section
10:30 AM-11:30 AM

Rene Bindels

ENaC/ASIC Proteins as Cardiovascular Sensors
Symposium Tuesday, April 21 — 10:30 AM-12:30 PM
Ernest N. Morial Convention Center, Room 242
Chaired: **Heather A. Drummond**, Univ. of Mississippi Med. Ctr.

Renal Hemodynamics
Featured Topic Tuesday, April 21 — 3:15 PM-5:15 PM
Ernest N. Morial Convention Center, Room 239

Chaired: **Carmen Troncoso Brindeiro and Lisa Harrison-Bernard**

Wednesday, April 22

Proteomics Techniques in Physiology and Cell Biology
Symposium Wednesday, April 22 — 8:00 AM-10:00 AM
Ernest N. Morial Convention Center, Room 244

Chaired: **Moshe Levi**, Univ. of Colorado, Denver
Mark Knepper, NIH, NHLBI

Regulation of Epithelial Ion and Water Channels and Regulatory Proteins
Featured Topic Wednesday, April 22 — 10:30 AM-12:30 PM
Ernest N. Morial Convention Center, Room 239

Liaison With Industry Committee (LWIC) Report
Craig F. Plato

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The APS LWIC is sponsoring a Symposium at EB 09 entitled "Molecular Imaging of Physiological Processes in Drug Discovery" on Tuesday, April 21 from 10:30 am – 12:30 pm. Molecular imaging unites molecular biology and in vivo imaging, and enables the visualization of cellular functions and molecular processes in living organisms without perturbing them. This rapidly evolving field has applicability to drug discovery ranging from obtaining global views of target tissues and drug actions, to target identification and localization, as well as non-invasive imaging of pathophysiologic processes in a number of tissues and organ systems and the influences of novel and existing therapeutic agents on these processes. This symposium will review a) the key recent developments in molecular imaging and their impact on drug discovery, b) future perspective for the application of reporter animals for drug discovery, c) functional molecular imaging in translational research and d) advances made towards the potential clinical applications of molecular imaging in pathophysiological processes of cardiovascular disease. Attendees will gain an appreciation for the new and emerging applications of molecular imaging to drug discovery and pathophysiology.

In addition, the APS and LWIC are co-sponsoring a Translational Physiology Symposium entitled "Fibrosis: Signaling, Physiology, and Therapies" on Monday, 20 April from 10:30 am – 12:30 pm. Tissue fibrosis is associated with several end-stage organ diseases, including hepatic cirrhosis, cardiac diastolic dysfunction, and chronic kidney disease. In many cases correcting the underlying insult allows for recovery and regeneration of functional tissue. However, if left untreated, persistent insults lead to unchecked chronic wound healing and tissue fibrosis, greatly compromising organ function. This symposium will review a) the key signaling pathways associated with fibrosis in multiple tissues, b) epithelial-to-mesenchymal transition as a mechanism that promotes fibrogenesis in kidney and lung, c) the similarities and differences associated with current small molecule and biologic therapies, and d) the successes and challenges that fibrotic therapies are experiencing in the clinic. Attendees will gain an appreciation for the translational nature of studying and treating fibrotic diseases. Look for the full program on-line at http://www.the-aps.org/meetings/eb09/program.htm.

The LWIC Novel Disease Model Award will be granted to each a graduate student and a postdoctoral fellow who submit the best abstracts at EB '09 that describe a novel disease model. The model can be *in vitro* or *in vivo* but should clearly emphasize the potential utility of the system for future research related to a disease. The award is $500 for the graduate student and $800 for the postdoctoral fellow and is sponsored by the LWIC and the APS.

You're invited! Come meet and eat with your fellow Physiologists who are working in the corporate and/or industrial sector. The 9th Annual Liaison with Industry Committee Mixer at EB '09 is on Sunday, April 19th, 7:00 – 9:00 PM in the Marlborough A Room of the Hilton New Orleans Riverside Hotel. Free Hors d'oeuvres will be available along with a cash bar – we hope to see you there!

Renal Dinner 2009

WHERE: Plimsoll Club
30th Floor, World Trade Center
2 Canal Street, New Orleans 70130
504-529-1701
http://www.plimsoll.com

WHEN: Tuesday, April 21, 2009
Cocktail Reception at 6:30 p.m.
Dinner at 7:30 p.m.

COST: $60 for Faculty and Guests (Member or Nonmember)
$30 for Student/Postdoc Trainees (member or nonmember)

MENU: Please contact Lee Hamm if you have any special dietary restrictions: lhamm@tulane.edu

HOW: A few tickets will be available at the APS office in the Hilton Riverside Hotel.

Questions: Lee Hamm, Banquet Organizer: lhamm@tulane.edu
Linda Allen, APS Meetings Manager: lallen@the-aps.org or 301-634-7172.

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