



Environmental & Exercise Physiology Section Newsletter

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1. ***Edward Adolph Distinguished Lecture: John M. Johnson, Ph.D. - "Mechanisms of Control in the Human Cutaneous Circulation"***



The 2010 Adolph Lecturer is: John M. Johnson, Ph.D. - Professor of Physiology, Deputy Chair of Physiology, University of Texas Health Sciences Center at San Antonio. This Adolph Lecture is given by an eminent research scholar making landmark contributions within the areas of either environmental, exercise and/or thermal physiology.

John Johnson – Adolph Lecturer

2. ***EEP Honor Award: Richard R. Gonzalez, Ph.D.***

The 2010 EEP Honor Award winner is: Richard R. Gonzalez, Ph.D. Adjunct, Professor of Biology, New Mexico State University. He formerly served as Chief, Biophysics and Biomedical Modeling at US Army Research Institute of



Environmental Medicine (1984-2003) and Associate Professor at JB Pierce Foundation Laboratory, Yale University School of Medicine (1974-1983). The Honor Award recognizes members of the EEP Section, (60 years of age or older) who has made significant life-long research contributions to the scientific advancement of environmental, exercise, or thermal physiology while enhancing the objectives of the section.

Rich Gonzalez-
Honor Award

3. **EB10 Early Program of Lectures / Symposia / Featured Sessions**



Craig Crandall-
EEP Program Representative

The 2010 American Physiological Society / Experimental Biology Meeting is from April 24-28 in Anaheim, CA. EEP Program Committee Representative Craig Crandall has worked hard developing the EB10 program and has provided a preview of some exciting scientific symposia and featured sessions of interest to EEP members.

Sunday, April 25

- Edward F. Adolph Distinguished Lectureship of the APS Environmental & Exercise Physiology Section - **John Johnson**
- Autonomic Adjustments to Stress - **Chester A. Ray and Jason R. Carter**
- Interaction Between Respiratory and Limb Muscle Blood Flow During Exercise - **Peter D. Wagner and Jerome Dempsey**
- Cerebral challenges and consequences of exercise - **Samuel N. Cheuvront**
- Molecular Mechanisms and Genetics of Hypertension - **Carol Moreno Quinn and Anna Dominiczak**

Monday, April 26

- Endocrine Adaptations to Exercise: How Important is Energy Balance? - **Peter A. Farrell**
- CNS Regulation of Body Temperature - **Shaun Morrison**
- Hyperkalemic and Hypokalemic Periodic Paralysis in Skeletal Muscle: Insight from New Mouse Models - **Jean-Marc Renaud**
- Redox Control of Skeletal Muscle Adaptation to Exercise and Disuse - **Scott Powers and Michael Reid**
- Neural Control of Blood Pressure and Fluid Volume Homeostasis: Sodium Metabolism - **Thomas Cunningham**
- Neural Mechanisms of Sympathetic Activation in Cardiovascular Diseases - **Hui-Lin Pan**
- Neuromodulatory Cytokines in Cardiovascular Functions - **Mohan Raizada and Julian Paton**
- Novel Gastrointestinal Nutrient Sensors - **Stephen Crozier and Helen Raybould**
- Non-Erythropoietic Properties of Erythropoietin: Implications for Tissue Protection and Cancer - **Abdulla Salahudeen and Stephanie Watowich**
- Translational Research in Metabolic Syndrome and Cardiovascular Disease: Swine versus Mouse Models - **Michael Sturek**

- Regulation of Neuronal Cell Volume: From Activation to Inhibition to Degeneration - **Glenn Toney and Sean Stocker**

Tuesday, April 27

- Habitual Exercise and Arterial Aging - **Douglas R. Seals and Hirofumi Tanaka**
- Sex steroids in Cardiovascular-Renal Physiology and Pathophysiology - **Barbara T. Alexander and Donna Korzick**
- Cardiovascular Adjustments at High Altitude - **Mikael Sander**
- Comparative Metabolic Physiology - **Karen Sweazea**
- Inflammatory Responses and Hypoxia-Inducible Pathways - **Sean Colgan and Holger K. Eltzchig**
- Mitochondrial Oxidants and Antioxidants in Autonomic Regulation and Cardiovascular Function - **Matthew C. Zimmerman**
- Comparative Metabolic Physiology - **Karen Sweazea**
- Cardiovascular Consequences of the Metabolic Syndrome - **David Stepp and Jefferson Frisbee**
- PGC-1alpha in Health, Exercise and Disease - **David Hood**
- Physiological Biomechanics - **Matthew McHenry**

Wednesday, April 28

- To Exercise or Not to Exercise: Can We Replace Physical Activity with a Pill? - **Eva R. Chin and Espen E. Spangenburg**
- The Role of the Ubiquitin Proteasome System in Cardiac Disease, Diabetes, and Aging - **Monte S. Willis and Xeujun Wang**
- Sarcopenia: Signal Transduction and Metabolism in Senescent Skeletal Muscle - **Thomas H. Reynolds**
- New Insights into the Relationship Between Sodium Metabolism and Blood Pressure Regulation - **Michael H. Humphreys and Peter Bie**
- Mechanisms of Peripheral Chemoreception - **Daniel K. Mulkey**
- Vitamin D Deficiency and Its Impact on Health - **Diane L. Kamen and Vin Tangpricha**
- Mechanobiology and Oxidative Stress - **Anthony Passerini and John Frango**
- The Brain, Behavior and Autonomic Function in Health and Disease - **Angela J. Grippo and Julia A. Moffitt**

4. EB10 EEP Abstract Sessions - Plan on Submitting to these EEP Topic Areas!

It is important that EEP members submit abstracts to EEP Topic categories. The topic categories can be adjusted each year in response to section interests.

Feature Topics

1118-APS	Cerebral challenges and consequences of exercise
1119-APS	Endocrine adaptations to exercise: How important is energy?
1120-APS	Cardiovascular adjustments at high altitude (Sander)

Regular Topics

1121-APS	Altitude and hypoxia
1122-APS	Cardiovascular responses to exercise
1123-APS	Circadian and biological timekeeping
1124-APS	Diving and hyperbaria
1125-APS	Exercise metabolism and locomotion
1126-APS	Exercise responses and training
1127-APS	Fever and hypothermia
1128-APS	Gravitation and space
1129-APS	Metabolism in muscle
1130-APS	Muscle plasticity and gene regulation/expression
1131-APS	Neural control of the circulation during exercise
1132-APS	Physiological adaptations to inactivity
1133-APS	Respiratory responses to exercise
1134-APS	Signaling in muscle
1135-APS	Temperature regulation and fluid balance

5. EB10 - APPLY FOR EEP AWARDS

There is a Young Investigator and four pre-doc- and four post-doc awards available and eligible candidates are encouraged to apply for **all** awards. Take advantage of these opportunities! ***All application materials must be completed online by November 5, 2009.*** <http://www.the-aps.org/meetings/eb10/awards/eep.htm#gatoradebeg>

Environmental and Exercise Physiology (EEP) New Investigator Award (\$1,000 plus reimbursement of the advance registration fee) recognizes an outstanding investigator in the early stages of his/her career. Candidates should be investigators who have made meritorious contributions to the area represented by the EEP Section. They should not be above the rank of Assistant Professor or a comparable position in a research track at an academic institution or in industry (e.g. Scientist, Sr. Scientist, Research Investigator, etc.). They should receive nominations from at least two regular members of the APS. Candidates will be judged on their publications, how the publications relate to the EEP Section and evidence for independence and promise (grant funding, peer review activities, etc.). Although this is not an abstract-based award, awardees are expected to attend EB Meeting and make an oral or poster presentation. The candidate must be an APS member in good standing with a primary affiliation in the Environmental and Exercise Physiology Section. Candidates must upload:

curriculum vitae, 2 nomination letters from APS members, and 3 reprints. Awardees are recognized at the EEP Awards Reception.

Environmental & Exercise Physiology (EEP) Gatorade Beginning Investigator Award (\$750 plus reimbursement of the advance registration fee) is presented to a post-doctoral trainee whose investigation in either environmental, exercise or thermal physiology has been designated by the Steering Committee as an outstanding example of experimental research. Applicants must be first author on an abstract submitted to an EEP topic category (1118-APS through 1135-APS) at the 2010 EB meeting.

Environmental & Exercise Physiology (EEP) Gatorade Predoctoral Investigator Award (\$600 plus reimbursement of the advance registration fee) is presented to a predoctoral graduate student whose investigation in either environmental, exercise, or thermal physiology has been designated by the Steering Committee as an outstanding example of experimental research. Applicants must be first author on an abstract submitted to an EEP topic category (1118-APS through 1135-APS) at the 2010 EB Meeting and have not received their advanced degree by the abstract deadline of November 5, 2009.

Environmental & Exercise Physiology (EEP) Section Military Physiology Predoctoral Award (\$600 plus reimbursement of the advance registration fee) recognizes outstanding research in either environmental, exercise, or thermal physiology by a graduate student that is relevant to the physiological missions of the U.S. Armed Forces. Applicants must be first author on an abstract submitted to an EEP topic category (1118-APS through 1135-APS) at the EB 2010 and have not received their advanced degree by the date of the EB 2010 abstract deadline of November 5, 2009.

Environmental & Exercise Physiology (EEP) Beginning Investigator Military Physiology Award (\$750 plus reimbursement of the advance registration fee) recognizes outstanding research in either environmental, exercise, or thermal physiology by a postdoctoral fellow or equivalent that is relevant to the physiological missions of the U.S. Armed Forces. Applicants must have received their advanced degree within four years of the EB 2009 abstract submission date of November 5, 2009 and must be first author on an abstract submitted to an EEP topic category (1118-APS through 1135-APS) at EB 2010.

Environmental & Exercise Physiology (EEP) Space Biomedical Research Institute's Predoctoral Gravitational Physiology Award (\$600 plus reimbursement of the advance registration fee) recognizes outstanding research related to gravitational physiology by a graduate student that is relevant to the physiological missions of the National Space Biomedical Research Institute (NSBRI). Applicants must be first author on an abstract submitted to an EB 2010 EEP topic category (1118-APS through 1135-APS) and have not received their advanced degree by the date of the EB abstract deadline of November 5, 2009.

Environmental & Exercise Physiology (EEP) Space Biomedical Research Institute's Gravitational Physiology Beginning Investigator Award (\$750 plus reimbursement of the advance registration fee) recognizes outstanding research related to gravitational physiology by a postdoctoral trainee that is relevant to the physiological missions of the National Space Biomedical Research Institute (NSBRI). Applicants must be first author on an abstract submitted to an EEP topic category (1118-APS through 1135-APS) at the EB Meeting.

Environmental & Exercise Physiology (EEP) Section Predoctoral Recognition Award (\$500 plus reimbursement of the advanced registration fee) is presented to one or more pre-doctoral graduate students whose investigations in either environmental, exercise, or thermal physiology has been designated by the Steering Committee as being an example of meritorious research. Applicants must be first author on an abstract submitted to an EEP topic category (1118-APS through 1135-APS) at the 2010 EB Meeting and have not received their advanced degree by the abstract deadline of November 5, 2009.

Exercise Physiology (EEP) Section Recognition Award for Beginning Investigators (\$500 plus reimbursement of the advanced registration fee) is presented to one or more postdoctoral trainees whose investigations in either environmental, exercise, or thermal physiology has been designated by the Steering Committee as being an example of meritorious research. Applicants must be first author on an abstract submitted to an EEP topic category (1118-APS through 1135-APS) at the EB 2010.

6. Nominate EEP Councillors:

Terms will end for one EEP Councillor for Environmental Physiology and one EEP Councillor for Thermal Physiology. ***Provide names and Resumes of EEP Councillor Nominations to Mike Sawka.***

7. EEP / APS - News Update



Mike Sawka- EEP Chair

EEP is Healthy & Growing: EEP total membership has increased from 1,724 (March 08) to 2,080 (September 09). EEP section has 896 primary and 1,184 secondary affiliations. ***We challenge EEP members to encourage colleagues to join APS and our section.***

Bodil M. Schmidt-Nielsen Distinguished Mentor and Scientist Award

Award: \$1,000 honorarium + travel expenses for EB 2010 meeting

This award is to recognize an APS member (male or female) who is judged to be both a superb mentor and an outstanding scientist. Please see below link for details on what should be included in a nomination packet. <http://www.the-aps.org/awards/society/schmidt-nielsen.htm>

APS is offering two professional skills training courses, "Making Scientific Presentations" and "Writing and Reviewing for Scientific Journals" for graduate students and postdocs this winter - January 14-17th, 2010 at Disney's Contemporary Resort in Lake Buena Vista, Florida. Use the link below for information on the courses and available travel fellowships. <http://www.the-aps.org/education/profSkills/index.htm>

The APS regularly awards Travel Fellowships for underrepresented minority scientists and students to attend APS scientific meetings with funds provided by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). These Fellowships provide funds for registration, transportation, meals, and lodging for travel to a meeting location, as well as complimentary meeting registration. Last year 40 fellows were funded to attend EB10. The travel awards are open to graduate students, postdoctoral students, and advanced undergraduate students from minority groups underrepresented in science (i.e., African Americans, Hispanics, Native Americans, and Pacific Islanders). Students must be US citizens or permanent residents. The specific intent of this award is to increase participation of pre- and postdoctoral minority students in the physiological sciences. For more information, contact Brooke Bruthers in the APS Education Office at 301-634-7132 or bbruthers@the-aps.org, or visit http://www.the-aps.org/education/minority_prog/index.htm on the APS website.

NIH Loan Repayment Programs: Participants Receive Up to \$35,000 Annually – Deadline is December 1, 2009. The National Institutes of Health (NIH) repays outstanding student loans through its extramural Loan Repayment Programs (LRPs). The LRP target researchers who are or will be conducting nonprofit biomedical or behavioral research, and the application cycle opens September 1. The five extramural LRPs are Clinical Research, Pediatric Research, Health Disparities Research, Contraception and Infertility Research, and Clinical Research for Individuals from Disadvantaged Backgrounds. Applications will be accepted online until 8:00 p.m. Eastern time on December 1, 2009, at www.lrp.nih.gov <blockedhttp://www.lrp.nih.gov> .

John F. Perkins, Jr. Memorial Award for International Physiologists: Award: Up to \$5,000. The John F. Perkins, Jr. Memorial Award for International Physiologists promotes cultural exchange and scientific collaborations by providing supplementary aid to families of foreign scientists working for a minimum of 3 months in the U.S. In this way, young scientists are able to bring their families and thus make full use of the cultural exchange as well as the scientific benefits associated with an international collaboration. Deadlines: October 15. <http://www.the-aps.org/awards/society.htm#perkins> <blockedhttp://www.the-aps.org/awards/society.htm#perkins>

8. Dr. TIPTON “EEP Legend” Featured in APS Living History Program

Dr. Charles Tipton is featured in the APS Living History of Physiology Project. The APS has initiated the Living History of Physiology Project. Dr. Tipton is interviewed by Dr. Ed Zambraski who was an early graduate student of Dr.



Tipton. The video focuses on his training, career and professional interactions. Previous EEP “Legends” featured in this series include Clark Blatteis, Elsworth Buskirk, John Greenleaf and Edgar Folk. To view the interview (<http://www.the-aps.org/video/livinghistory/charlesmtipton.htm>)

Charles Tipton and Edward Zambraski

9. Welcome New EEP Members

Student Members: Chelsea Barrera, Cameron Carter, Kyle Hackney, Katrina Onus, Tom Schlabs, Daniel Walhof, Andrew Kelleher, William Lunn, James Bagley, Thales Gomes, Dave McMillan, Konstantinos Bardis, Justin LaFavor, Adam Marmon, Pradeep Bhandan.

Regular Members: Carlos Ferreira, Nicola Lai, Yuj Ogura, John Florian, Mary Garcia-Cazarin, Angela Chale-Rush, Petra Gola, Jung Kim, Thomas Olson, Beth Parker, Jakob Vingren, Heath Gasier, Grant Simmons, Matthew Ganio

10. Journal of Applied Physiology – Update



Jerry Dempsey –
Editor-In-Chief, Journal of Applied Physiology

Thank you for the opportunity to bring you up to date on the *Journal of Applied Physiology*. Our Point: Counterpoint series continues on an every other month basis. Many of the topics deal with environmental and/or exercise physiology and many of the authors are EEP members. Nevertheless, we need your ideas for future Point: Counterpoint debates in the *Journal of Applied Physiology*. Please let us know what you think is a worthwhile, controversial problem and which authors might contribute to the debate. We will take it from there. I especially encourage beginning investigators to participate in these debates – either as a main author or as an author of a brief commentary (see <http://www.the-aps.org/publications/specialcalls/jappl-pcp-instructions.htm>).

Our “Viewpoint” manuscripts also continue on an every other month basis. The idea is to have fresh perspectives presented to the readership and in turn invite the readers to comment. So, dust off one of your favorite concepts that you have been developing over the years and send it along for peer review (see http://www.the-aps.org/publications/jappl/article_types.htm).

The *J Appl Physiol* (ISI-generated) 2008 Impact Factor is now 3.658 which represent the citation in 2008 to manuscripts published in 2006 and 2007. In 2007, *JAPPL* experienced a 14% increase in the IF – the first substantial increase since 2003 and it has remained stable at this level in 2008. We hasten to add that despite this improvement in our IF and the importance attributed to the IF by many academic and grant-governing institutions, there are many serious problems with this index – both as a measure of journal quality and certainly of the quality of science published by individual investigators. Nevertheless, we believe this increase in the Impact Factor is just one index of the significant increase in the quality of physiologic findings published in the *J Appl Physiol* over the past few years.

The *JAPPL* editors endorsed a resolution of a group of editors representing 14 journals (The International Respiratory Journal Editors Roundtable) which spoke against the use of a journal impact factor for evaluating the quality of an individual scientist's rank in matters of promotion, etc. Please access this editorial at <http://jap.physiology.org/cgi/reprint/00891.2009v1>.

The *J Appl Physiol* continues to align closely with the EEP leadership and its members. We look forward to continuing and strengthening this relationship. Send us your ideas and your manuscripts.

11. Partnership for Clean Competition Announces Funding Opportunities

The Partnership for Clean Competition (PCC) – which aims to ensure integrity in sport by supporting high-quality, high-impact, novel research – is now accepting pre-applications for its third round of 2009 grant funding from researchers interested in applying for anti-doping research funding. The PCC is an innovative research collaborative founded by the United States Olympic Committee (USOC), United States Anti-Doping Agency (USADA), Major League Baseball (MLB) and the National Football League (NFL). The PCC considers non-partisan, independent research that has a high likelihood of resulting in methods or products that will advance the anti-doping field and ensure integrity in sport. The PCC grant program will address research focused on improving analytical methods for detecting performance-enhancing drugs as well as more cost-effective approaches for testing for widely abused substances.

The grant pre-application is available online, with a deadline of November 1, 2009. Selected researchers whose proposals align with the PCC's objectives will then be asked to submit full project applications by December 1, 2009. The PCC conducts three grant application rounds annually.

To apply for PCC funding, please visit the PCC website at www.cleancompetition.org. Also participating and contributing financially to the PCC are the National Basketball Association (NBA), National Hockey League (NHL) and the PGA TOUR.

For more information, please contact the USOC Communications Division at (719) 866-4529.

12. Know Your Steering Committee

The following were elected to serve your interests. If you have any program or other ideas / concerns regarding APS and EEP issues please do not hesitate to contact the following:

Chair: - Mike Sawka - michael.sawka@us.army.mil

Chair Elect – Scott Powers - spowers@hnp.ufl.edu

Joint Program Committee Representative – Craig Crandall
craig.crandall@utsouthwestern.edu

Exercise Physiology Councilor - Peter Farrell - FARRELLP@ecu.edu

Exercise Physiology Councilor – George Brooks - gbrooks@berkeley.edu

Environmental Physiology Councilor - Sue Bloomfield - sbloom@tamu.edu

Environmental Physiology Councilor - Robert Roach - Robert.Roach@uchsc.edu

Thermal Physiology Councilor - Sam Chevront - Samuel.chevront@us.army.mil

Thermal Physiology Councilor - Nisha Charkoudian - charkoudian.nisha@mayo.edu

Committee-on- Committees Representative - Mike Hogan - mchogan@ucsd.edu

Trainee Advisory Representative - Grant Simmons - simmonsgh@missouri.edu

International Committee Representative – Hiroshi Nose - nosehir@sch.md.shinshu-u.ac.jp

Liaison with Industry – Karen Mittleman - Karen.Mittleman@sanofi-aventis.com

13. In Memoriam – Jeffrey T. Potts



Dr. Jeffrey T. Potts, Associate Professor, Dalton Cardiovascular Research Center, University of Missouri-Columbia.

It is with great sadness that we report that our colleague and friend Jeff Potts died on September 2nd after a battle with cancer. Jeff touched so many lives among the physiology community with his enthusiasm, positive attitude, and collaborative spirit. We offer our condolences to his family and friends. A fund has been established to help support Jeff's 10 month old daughter's education. If you would like to contribute to this fund, send a check made out to Nadia Potts Scholarship Fund, C/O Peter Raven, The Department of Integrative Physiology, University of North Texas Health Science Center, 3500 Camp Bowie Blvd, Fort Worth, TX 76107.