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*Integrating the Life Sciences from Molecule to Organism*

# The Physiologist

## INSIDE



## One Physiology

## 80th President of APS
## Hannah Carey

**Hannah V. Carey**

When I joined the American Physiological Society nearly 22 years ago, I could not have envisioned that one day I would become President of this Society. I am humbled and honored to be asked to lead an organization that has always been at the core of my academic life. My love of physiology and dedication to the APS is due in large part to the influence of my postdoctoral advisor, Helen J. Cooke, who has mentored me throughout my career. In addition to excellent scientific guidance, Helen instilled in me the idea that participation in scientific societies—and in particular the APS—should be an integral part of my professional life. I have also been blessed with the guidance and encouragement of a number of other colleagues who have helped shape my career and my participation in the APS. To all of them, I extend my heartfelt thanks.

Election to President of the APS is particularly special for me, because I will be only the third woman to serve in this position. I am pleased to see that the involvement of women as members and in the governance of the Society has increased significantly since the time I joined as a trainee member. Our Society is also becoming increasingly diverse as it embraces members from minority groups, and I expect this to continue in the years ahead, aided by programs like the Porter Physiology Development Program. I believe that this diversity in APS contributes substantially to our strength as a society. Equally powerful is another sense in which the APS is diverse: in the nature of the science we do and the questions we ask. We hold a variety of professional degrees including MD, PhD, DVM, DO; we utilize an astounding variety of research tools, model systems and scientific approaches. APS members engage in a wide range of professional activities including research that is academic or industry-based, and that is focused on basic, clinical or translation-

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al investigations. We are educators in the academic and public arenas, and we advocate for science and for physiology as a keystone discipline for the life sciences. Our health as a Society depends on us capitalizing on these diverse backgrounds, interests and scientific approaches, and working together when challenged with threats, such as diminished research funding, public misperception of science, and animal activism.

The diversity we display as physiologists also provides a rich resource base for us to take a leadership role as society addresses the health challenges we face as a global community. Global health is generally viewed as the application of public health on a global scale, particularly as it pertains to health concerns of human populations in developing regions of the world. A broader and more inclusive view, however, encompasses the science and practice of sustaining the health and well-being literally of our globe, including human populations and the cultures associated with them, animal populations, and the ecosystems within which we all live. These views of global health—the human-centric and broader, ecosystem centric—are quite complementary, and in fact inter-dependent: our health as a species is intimately linked to the health and well-being of the animals (and other living beings) around us. In the remainder of this essay, I'd like to highlight three related themes that illustrate how I see our role and, indeed, responsibility, as a discipline and as a Society to be leaders in global health. These are: the contributions of physiology to human public health, the physiological basis of ecosystem health, and the unique position of physiology, as the integrative life science, to translate these two interdependent, mutually beneficial areas into "One Physiology" that fosters the global health of our planet.

**Physiology and Global Health: Human Public Health**

There is no doubt that physiological research has made substantial contributions to the science that underlies public health. Probably the best example of a resounding success story is the development of oral rehydration therapy (ORT) to combat life-threatening diarrheal diseases, which still kill nearly two million children worldwide each year, particularly in developing countries. The discovery by epithelial transport physiologists beginning in the 1950s, first of the mechanism of sodium-coupled glucose absorption in the intestine, followed by the recognition that secretory diarrheas (such as those induced by bacterial enterotoxins) do not impair sodium-coupled absorptive mechanisms led to the development of ORT. Continued research is leading to refinements in ORT formulations to help meet this challenge and further reduce diarrhea-associated mortalities. Advances in understanding the molecular physiology of epithelial chloride (CFTR) channels that drive fluid secretion in the gut are leading the way in the development of new therapies that will provide additional protection against the massive fluid losses induced by diarrheal diseases. This is important, because although use of traditional ORT has led to the yearly decline in deaths from acute diarrhea worldwide from 12 million to less than two million, it does little to decrease the duration of diarrheal episodes.

The work physiologists do is closely tied to other areas of public health, such as elucidating mechanisms of obesity, type 2 diabetes, cardiovascular disease and metabolic syndrome. These are health issues recognized as nearing epidemic levels in some parts of the developed world, but are becoming increasingly recognized as public health issues for developing countries as well. This paradox of public health crises in human populations where malnutrition and related diseases are common, in close proximity to populations suffering from consequences of excess food and reduced activity levels is particularly prevalent in "transition" countries like Vietnam and China, in which there is great disparity between people living at very low and very high income levels. Other areas in which physiological research interfaces with public health include respiratory biology (e.g., asthma/allergy, influenza outbreaks and resulting complications from acute respiratory distress syndrome), reproductive physiology, the physiology and pathophysiology of aging, exercise and environmental physiology, and many others.

These examples illustrate the stellar manner in which physiology facilitates translational research from the bench to the global community. How might we as a Society strengthen this relationship? One way is to help spark the passion among our trainees to pursue a career in basic or translational research that encompasses a public health perspective. We could, for example, assist the development of programs that expose young physiologists in their training to real-world experiences that demonstrate directly the benefits their research can have on the global community. An ideal candidate might be a postdoctoral fellow who has already identified for their research focus a particular area of physiology that has applications to global health. With stipend support, the fellow would step out of the laboratory environment for a limited period (e.g., two to four months) and step in to the world of global health in practice. Shadowing and rounding with physicians and other experts in a clinical area related to their research interests could help shape the goals and approaches of their future research programs, or simply provide the passion that is so needed for a fulfilling and productive research career. The ability to implement new programs like this when funding levels are stagnant is, of course, the challenge. Along with our sister societies in FASEB, APS continues to be a strong advocate for more federal support of basic and translational research. As President I will work hard to assist that effort that is so essential for investigator-initiated research, but is increasingly important for interdisciplinary/multidisciplinary approaches that bring the achievement of basic scientists to the clinical setting. The physiology/global health "externship" program described here is of a more modest scale; one route that could be explored for funding is a partnership between APS and government agencies or nonprofit foundations that focus on global health and translational biomedicine.

**Physiology and Global Health: Ecosystem Health**

In our discussion of the role physiology plays in global health, we must not lose sight of the fact that discoveries made by physiologists benefit not only human life, but also the health and well-being of the animals whose planet we share. Discoveries made in the quest to improve human health become part of the arsenal used to treat our companion animals, our domestic animal populations, and wild species. Similarly, animal models of disease from the veterinary world can be translated to human medicine, and indeed most therapies used for humans have been discovered and evaluated through the use of animal models. But the interplay between the two is broader than

that: our ability to achieve healthy and fulfilling lives absolutely depends on the health of the organisms around us, and their existence depends on ours. As we know all too well from data accumulating on the impacts of human populations on other species, we have the potential to influence species survival on our planet, and for existing species, to influence what the quality of their lives can be. In turn, our actions that may have adverse effects on the survival of other species can alter the healthy balance of coexistence that benefits us all. This interdependence of human-animal interactions on the earth is illustrated by the growing recognition that maintenance of biodiversity influences the spread of pathogens, and, thus, our ability to control the spread of infectious diseases. West Nile virus, for example, is spread from wild birds to people via mosquitoes. Because some birds are poor hosts for the virus, maintaining their population numbers within avian communities helps reduce the incidence of the disease in humans. Another example is the decline in some of our major fish populations. Not only does this represent a crisis in ecosystem management and the potential for collapse of oceanic food chains, it also jeopardizes our access to nutrients that can provide significant health benefits, such as fish oils that contain high levels of cardioprotective omega-3 fatty acids. These sorts of relationships underscore the important linkages between animal population biology, biodiversity and human health. Because the maintenance of biodiversity, particularly in our changing global environment, starts with understanding how animals adapt *physiologically* to changes in their biotic and abiotic environments, we play crucial roles in global health—for us as humans, and for the health of the complex ecosystems around us. Although physiological investigations with non-laboratory animals has traditionally been considered the realm of comparative and ecological physiology, it's important to keep in mind that *all* of us contribute to the collective understanding of how life works, and the science that each of us does builds on the work of others.

Some of these ideas were crystallized by presentations made during the APS-sponsored Intersociety Conference, "Comparative Physiology: Integrating Diversity," which was held in Virginia Beach in October of last year. In particular, presentations by the conference's plenary speakers illustrated each in their own way, that physiology is crucial to our understanding of species adaptation to change, and, thus, our ability to predict survival of species in a changing world. Of particular note, Terrie Williams of UC-Santa Cruz ended her presentation with a challenge to the audience (and larger scientific community) that called for the development of a national center network to enhance physiological research and the organization of physiological data on wild species, and particularly those endangered or vulnerable to changing environmental conditions.

I am pleased to report that further discussions on this concept have been taking place subsequent to the Virginia Beach Conference, facilitated by our Executive Director, Martin Frank, and a small advisory group. The APS is now poised to move to the forefront this critical role that physiology plays in the global health of animal life on our planet. On March 18-19 of this year a workshop, supported by the National Science Foundation, is being held to discuss the feasibility of developing a National Center Network for Physiological Research, Integration, Synthesis and Modeling (PRISM). PRISM proposes a comprehensive approach to cataloging physiological diversity and applying research findings in a broader, more global perspective, thus enhancing their impact. One of the core goals of the PRISM network would be to improve the ability of physiologists, working collaboratively with other environmental scientists, to identify the potential for adaptation (or loss) when species are challenged by environmental perturbations. Many of these challenges, including climate change, introduction of environmental toxins and changes in complex food chains, ultimately impact humans and are of increasing concern to the public. The proposed network would, thus, serve as a resource for physiologists and other scientists searching for new ways to mitigate species loss in a changing world. This in turn will help guide management decisions that impact the interrelationships between humans, animals and the environment.

Developing a resource whose mission is the synthesis and integration of research efforts in comparative and ecological physiology also benefits human and animal biomedicine. Detailed understanding of how animals adapt physiologically to their specific ecological niches, particularly those that involve adaptations to environmental extremes, can provide insight into the capacity of physiological systems to respond to perturbations (*1*). Such species could be used in a data mining approach to identify mechanisms for translation into new therapeutic targets in the clinical arena. Indeed, the NIH has recognized the valuable resource provided by species uniquely adapted to environmental extremes, as illustrated by the recent Program Announcement "Elucidating Nature's Solutions to Heart, Lung, and Blood Diseases and Sleep Disorder Processes" (*3*). As mentioned earlier, building an infrastructure to promote physiological synthesis and integration would also benefit human-animal interactions from the perspective of managing food animal resources for maximum sustainability. Ideally, the PRISM project would promote a culture of collaboration among biomedical and comparative physiologists, scientists in other relevant disciplines, and environmental managers to address global issues and foster the health of humans and animals on our planet. Because of the highly multidisciplinary nature of PRISM, it is expected that the funding required to develop and sustain the program would derive from multiple sources, such as the National Science Foundation, National Institutes of Health, private nonprofit agencies and even industry.

A key aspect of the PRISM program would be integrating the expertise of established investigators with the enthusiasm of young scientists, which is essential for training the next generation of whole animal physiologists. Trainees would be exposed to a parallel form of translational physiology, one that starts with the best physiological training that incorporates modern tools like genomics, proteomics, metabolomics and other technologies commonly used in the human research toolbox, along with others required to obtain accurate physiological data from free ranging animals such as biologging and stable isotope analysis. In this way, trainees get exposure to techniques used at the lab bench all the way to the "bedside" of the real environment, so that they are best prepared to translate physiological knowledge to management and policy decisions that will keep our earth's living resources in optimal health. This kind

of expertise will help prepare future investigators who will work in the area of "conservation physiology," a nascent sub-discipline of our field that is being increasingly recognized as an essential component of conservation biology (*2*).

**The Physiologist: Integrating and Translating Basic Research to Global Health**

The natural linkages between physiology and global health underscore the reality that our discipline is a critical component of a true systems biology approach to health. As molecular biology has moved into the post-genomic era, systems biology has come to be regarded by many as beginning at the molecule, working within the complexity of the cell and ending at the plasma membrane. Complexity beyond the cell is

## Introducing Hannah Carey

Hannah V. Carey is a Professor of Comparative Biosciences in the University of Wisconsin School of Veterinary Medicine. She received a BS degree in Biological Sciences from the State University of New York, Binghamton, and her PhD in Zoology from the University of California, Davis. Carey was appointed as Assistant Professor at the University of Wisconsin in 1989, Associated Professor in 1991 and Full Professor in 2001. She also holds Affiliate Faculty appointments in the Department of Nutritional Sciences in the UW-College of Agriculture and Life Sciences, and in the Department of Pediatrics in the UW School of Medicine and Public Health.

Carey's research interests are in the areas of gastrointestinal physiology and hibernation biology. Her graduate research at the University of California's White Mountain Research Station was in feeding and nutritional ecology of hibernating mammals. She then carried out postdoctoral studies in intestinal transport physiology with Helen Cooke, first at the University of Nevada-Reno and then at the Ohio State University. Carey subsequently developed an independent research program that uses hibernating mammals as models for intestinal adaptation to extreme changes in nutrition and metabolism. Carey's research has also included studies with fetal and neonatal piglets to explore effects of development and nutritional status on intestinal absorptive and secretory function. Her current research continues in basic aspects of hibernation biology including intestinal epithelial biology, immunology and host-microbial relationships, as well as the translation of hibernation biology to biomedicine, including organ preservation, intestinal ischemia-reperfusion injury and severe blood loss. She has authored over 55 original articles, four invited reviews, edited one book and contributed nine book chapters. Carey's research has been funded by the National Institutes of Health, the National Science Foundation, the US Department of Agriculture, the US Army Research Office and the Defense Advanced Research Project Agency.

Carey has been an invited speaker at more than 70 national and international universities or symposia, has organized five symposia at national meetings and co-organized an international conference. She has served as a member of panels or special study sections for the NIH, NSF, and the National Space Biomedical Research Initiative, and has served as an external reviewer for several national and international funding agencies. Carey presently serves as the North American Editor of the *Journal of Comparative Physiology B* and is on the editorial board of the *American Journal of Physiology: Gastrointestinal and Liver Physiology.* She is a past member of the editorial boards of the *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology* and *Physiological and Biochemical Zoology.* She has served as an ad hoc reviewer for over 30 other scientific journals. She is currently a member of the *Faculty of 1000: Gastrointestinal Physiology* and previously served on the Staff of Contributors, Selected Summaries section of *Gastroenterology.*

Carey has served on over 30 committees at the departmental, school or campus level at the University of Wisconsin, including the Biological Sciences Divisional Committees on Promotion on Tenure and on Strategic Planning, the SVM Animal Care and Use Committee, the Women Faculty Mentoring Program, several search and screen committees including the Gastroenterology Division Chief for the UW Medical School and the Deans of the UW Graduate School and School of Veterinary Medicine. She has served for many years on the Board of Directors of the Wisconsin Association for Biomedical Research and Education, and currently serves as President. Carey is an active member of the American Gastroenterological Association, having served most recently as a member of the AGA Council, where she was Chair of the Nutrition and Obesity Section. She was a member of the AGA Women in Gastroenterology Committee and chaired the task force that created the AGA Career Development Program. She is currently a member of one of the working groups of the National Commission on Digestive Diseases. Carey has served in several advisory capacities at the university and national level, including an NSF workshop on *Multidisciplinary Research: Bridging the Gaps*, University of Alaska-EPSCoR *Integrative Approaches to Environmental Physiology* program, and exploratory workshops for the Defense Advanced Research Projects Agency. Carey instructs veterinary medical students in renal and gastrointestinal physiology, and has mentored five graduate students, 11 undergraduates, three postdoctoral fellows, and two veterinary students in research projects. She is a strong believer in public outreach and frequently visits community groups and schools to talk about her research and encourage young people to consider a career in science. She has also served as a source for radio, print and television reporters on stories that convey the excitement and value of science, particularly the science of hibernation.

Carey has been an APS member since 1984. Her APS activities include serving as Chair of the Women in Physiology Committee, during which time she initiated the APS Women's Mentoring Program; Chair of the Membership Committee; Chair of the Gastrointestinal and Liver Section Steering Committee; Chair of the Communications Committee, member of APS Council and member of the US Scientific Programming Committee for the IUPS 2005 Congress. ❖

often thought of as too emergent a property to be currently amenable to a systems approach. Yet, exploration from the genome to the outer reaches of a cell is just the beginning of a systems approach to biology. Physiologists view a living organism as much, much more than the network of signaling pathways within a cell or a series of intercellular communication pathways between similar or diverse cell types. Rather, higher-level emergent properties are the essence of organismal function, and must be incorporated into physiological modeling approaches to fully understand and predict responses of the whole organism. A true systems biology approach to health thus integrates molecular and cellular function with that of tissues, organs and large scale, whole body signaling networks, and finally with an organism's interaction with its environment.

Research and practice in global health (as well as personalized medicine) is becoming increasingly aided by modern tools that facilitate the molecular assessment of health and disease status – that is, biomarkers. New technologies are coming online that provide biomarker monitoring, and here again physiology plays a crucial role. "Omic" tools like genomics, proteomics, metabolomics and other related technologies all contribute to a systems approach to health. However, integration and interpretation of the output of these tools is essential for these technologies to be utilized to their best advantage. Through their ability to carry out sophisticated studies at the organ and whole animal levels, physiologists provide that integration, and, therefore, should be key members of teams that practice a systems approach to health. The development of high throughput identification and quantitation strategies for biomarkers and their application to health and disease—for humans as well as animals—is still in its infancy, and physiologists should be active participants in the early stages of translating these technologies to whole organ and organism function for both research purposes and for individual and population health assessment.

**The Way Forward**

As a Society we have the diversity, breadth, and depth to tackle problems literally of a global scale that will make a difference. These skills enable us to capitalize on our diversity – as human beings and as scientists – and effectively utilize the integrative and translational components of the work all of us do as physiologists. A slogan often heard in my institution, the University of Wisconsin School of Veterinary Medicine, is "One Medicine." This reflects our mission that as a collection of bioscience researchers and veterinary practitioners, the discoveries we make and our efforts to translate them to the clinic are done to improve the health of humans and animals alike. I would hold that as physiologists, our commitment and passion for understanding how living organisms function also goes beyond translating our work to the clinic. There is a pressing need for physiologists to expand the traditional application of our work and be active participants in the increasingly important decisions that affect how we manage the biotic resources on our planet, and how we can best promote healthy and sustaining relationships between human and animal life. Expanding our view of the role we play in the health of our globe is good for the APS, good for science and good for our world. This can happen if we work together, as "One Physiology." ❖

I am grateful to a diverse set of colleagues who have shared ideas that contributed to those expressed here, and provided comments on earlier drafts of this article, including Terrie Williams, Martin Frank, Kent Sanders, Allen Cowley, Helen Raybould, Christopher Olsen, Helen Cooke and Murray Clayton.

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## APS Election Results

The American Physiological Society announces the results of the election of officers for 2007. **Irving H. Zucker,** University of Nebraska College of Medicine, is the new President-Elect. The three newly elected Councillors taking office on May 2, 2007 are **Barbara E. Goodman**, University of South Dakota School of Medicine; **Joey P. Granger**, University of Mississippi School of Medicine; and **David M. Pollock**, Medical College of Georgia. The Councillors will serve for three years. ❖

**Irving H. Zucker**

**APS President-Elect**

**Barbara E. Goodman**

**APS Councillor**

**Joey P. Granger**

**APS Councillor**

**David M. Pollock**

**APS Councillor**

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***READY TO HAVE SOME PhUn?***

**2007 PhUn Week Training at Experimental Biology 2007**
**Sunday, April 29**
**9-11 am**
**Renaissance Hotel, Room 3**

The APS encourages all of its members to reach out to their local K-12 schools in November 2007 as part of Physiology Understanding Week (PhUn Week). PhUn Week resources and freebies can excite youth about research science and physiology. Physiologists CAN have an impact on precollege science and students through classroom visits with their lab groups. Start planning now with teachers in your community for Physiology Understanding Week, November 2007. How can you get started? Come to the PhUn Week Training session at EB!

**For more info: Contact APS Education Office, education@the-aps.org or go to www.PhUnWeek.org.**

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(Supported by the Grass Foundation)

**Frances Mary Ashcroft**
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**Saturday, April 28, 5:45 pm**
**Ballroom B**
**Washington DC Convention Center**

## Experimental Biology 2007

Henry Pickering Bowditch Award Lecture

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**"New Insight Into the Regulation of ENaC by Small G Proteins and Phosphatidylinositides"**

**Sunday, April 29, 5:45 pm**
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**SPONSORED BY** The American Physiological Society
For more info about EB 2007, Go To:
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Univ. of Wisconsin Vet Med., Madison
**Edward M. Onyango**
East Tennessee State Univ.
**Justus D. Ortega***
Humboldt State Univ., CA
**Mark Paciga***
FDA/CDER/DMA, MD
**David J. Pagliarini**
Massachusetts Gen. Hosp.
**Sukyung Park**
Korea Adv. Inst. Sci/Tech, South Korea
**Daniel B. Passos**
Univ. of Iowa
**Lucas D. Pozzo-Miller**
Univ. of Alabama, Birmingham
**Richard D. Rabbitt**
Univ. of Utah, Salt Lake City
**Andreas W. Reske**
Univ. of Leipzig, Germany
**Aaron N. Rice***
Cornell Univ., Ithaca NY
**Patricia R.M. Rocco**
Univ. of Fed. Do Rio De Janeiro, Brazil
**Petra Rocic**
Louisiana St. Univ., New Orleans
**Yu Sato**
Univ. of Yamanashi, Chuo, Japan
**Manish V. Sawane**
Jawaharlah Nehru Med. Coll., India
**Sarah Louise Sayner***
Univ. of South Alabama
**Jeffrey Robert Scott***
Davol Inc., Cranston, RI
**Pedro Paulo Da Silva Soares**
Fluminense Federal Univ., Brazil
**Janet D. Sparks**
Univ. of Rochester Sch. Med. & Dent., NY
**Pragada Sriramarao**
La Jolla Inst. Molecular Med., CA
**Michael R. Stenger**
Wyle Life Sciences Inc., Houston, TX
**Eckehard A. Stuth**
Medical College of Wisconsin
**Petroc Sumner**
Cardiff Univ., UK
**David A. Suzuki**
Indiana Univ. Med. Ctr.
**Douglas M. Swank***
Rensselaer Polytechnic Inst., NY
**Mark R. Sydorenko**
BrainMedia LLC, NY
**Sonja M. Tang***
Emory Univ., GA
**Hisaya Tanioka**
Tanioka Clinic, Bunkyo-ku Tokyo, Japan
**Keshari M. Thakali***
Univ. of Arkansas Med. Sci.
**Varsha Thakur**
Univ. of Illinois, Chicago
**Delphine Thevenet**
Univ. Nates UFR STAPS, France
**Rita C. Tostes**
Medical College of Georgia
**Cristina C. Trandafir**
Univ. of Alberta, Canada
**Jennifer K. Uno***
Univ. of North Carolina, Chapel Hill
**Chris Van der Poel**
Univ. of Melbourne, Australia
**Thomas M. Vondriska**
Univ. of Californnia, Los Angeles
**Matti Vornanen**
Univ. of Joensuu, Finland
**Cisca Wijmenga**
Univ. Med. Ctr. Groninger, The Netherlands
**Scott S.P. Wildman**
Univ. College London, UK
**William B. Wilent**
The Neuroscience Inst., San Diego CA
**Julia E.R. Wilkerson***
Univ. of Wisconsin, Madison
**Stuart M. Wilson**
Univ. of Dundee, UK
**Yong-Zheng Wu**
Univ. of Pennsylvania
**Christopher N. Wyatt**
Wright State Univ., OH
**Huijing Xia**
Louisiana St. Univ. HSC, New Orleans
**Jianping Ye**
Louisiana State Univ.
**Hermes H. Yeh**
Dartmouth Med Sch., NH
**Youwen Zhang**
Univ. of Alabama, Birmingham
**Junying Zheng**
Univ. of Alabama, Birmingham
**Huarong Zhou**
Pacific Northwest Res. Inst., Seattle WA
**Yujie Zhu**
Univ. of Illinois, Chicago

## New Student Members

**Elhaseen Ahmad**
Vrije Univ. Amsterdam, Netherlands
**Antiino Allen**
Indiana Univ.
**Matthew Barlow**
Univ. of North Texas, HSC
**Lisa Bertetto**
Wesleyan Univ., CT
**Alissa Blum**
Univ. of California, Davis
**Aaron Bunker**
Univ. of Missouri
**Daniel Cannon**
San Diego State Univ., CA
**Leonardo Cardoso**
Univ. of Texas HSC, San Antonio
**Abigail Clutterbuck**
Univ. of Nottingham, UK
**Justin Crane**
Ball State Univ., IN
**Benjamin Crockett**
Northern Michigan Univ.
**Jose Cruzado-Razco**
Univ. Nacional Trujillo, Peru
**Marielly Cuevas**
Ponce Sch of Medicine, Puerto Rico
**Ali Dursun**
Ankara Univ., Turkey
**Deborah Feairheller**
Temple Univ., PA
**Elizabet Freeburg**
Univ. of South Dakota
**John Gibson**
Brigham Young Univ., UT
**Leticia Gonzalez**
Univ. of North Texas HSC
**Masa Gorsic**
Inst. for Biochemistry, Slovenia
**Umesh Goswami**
Jawaharlal Nehru Med. Coll., India
**W. Graham**
Univ. of Chicago, IL
**Shilpa Gupta**
Datta Meghe Inst. Med. Sci., India
**Heather Hale**
Univ. of Cincinnati, OH
**Michale Hammer**
Univ. of Kansas
**Erik Hanson**
Univ. of Maryland, College Park
**Alexander Heazell**
Univ. of Manchester, UK
**Daniel Hiler**
Bowling Green State Univ., OH
**Michael Hoffman**
Univ. of Wisconsin
**Jeffrey Iliff**
Oregon Health & Sci. Univ.
**Anthony Illing**
Univ. of Cincinnati, OH
**David Johnson**
Univ. of Rochester, NY
**Chris Jurgens**
Univ. of North Dakota
**Jennifer Klau**
Univ. of Connecticut

**Hirenallur Kumar**
Univ. of Arkansas
**Erwan Leclair**
FSSEP Univ., France
**Michael Lockard**
Univ. of Maryland
**Eric Michel**
Univ. of New England Coll. of Osteopath.
**Jonathan Moore**
Univ. of South Carolina
**Scott Parks**
Univ. of Alberta, Canada
**Paul Reidy**
Anderson Univ., IN
**Melissa Riddle**
Univ. of New Mexico
**Carmen Rios**
Univ. of Miami, FL
**Moshe Safran**
Hebrew Univ., Israel
**Robert Schleip**
Ulm Univ., Germany
**Tripat Singh**
Delhi Univ. V P Chest Inst.
**Matthew Spraker**
Univ. of Illinois, Chicago
**Brandi Thompson**
Univ. of Michigan
**Nanette Tomicek**
Penn State Univ.
**Qin Wen**
Texas A&M Univ.
**Sandra Wohlgemuth**
Humboldt-Univ., Zu Berlin-Germany
**Nazanin Yacobi**
Univ. of Southern California
**Nazmi Yaras**
Ankara Univ., Turkey
**Mary Yeh**
Emory Univ., GA

## New Affiliate Member

**Barry Kop**
Clackamas Comm. Coll., OR

## Recently Deceased Members

**Roland H. Alden**
Placerville, Ca
**William A. Brodsky**
New Rochelle, NY
**Leslie E. Edwards**
Sandston, VA
**Samuel M. Feldman**
New York, NY
**Leroy L. Langley**
Mission Hills, KS
**John P. Marbarger**
Fort Myers, FL
**George Moushegian**
Dallas, TX
**Knut Schmidt-Nielsen**
Durham, NC
**William B. Youmans**
Columbia, MO
**Silvio Weidmann**
Bern, Switzerland

## Announcement

### VII$^{th}$ World Congress on Neurohypophysial Hormones
**Regensburg, Germany, September 18-22, 2007**

World-leading experts will present their research on vasopressin and oxytocin including

- Genes and Biosynthesis
- Central and Peripheral Release
- Mechanisms of Action
- Receptor Physiology and Pharmacology
- Electrophysiology
- Neuropeptide Chemistry
- Interaction with HPA Axis and Stress
- Kidney Functions and Water Metabolism
- Cardiovascular Regulation
- Reproduction
- Cognition, Emotionality, Behavior
- Psychopathology

For more information on registration, abstract submission, housing, special features and social events, please see: **www.uni-regensburg.de/wcnh2007**

## APS Presents Awards at ABRCMS Conference

The APS presented awards to minority undergraduate researchers and was a major conference sponsor at the Annual Biomedical Research Conference for Minority Students (ABRCMS) at the Anaheim Convention Center and Anaheim Marriott hotel in Anaheim, CA from November 8-11, 2006. ABRCMS is a national conference designed to facilitate increased minority involvement in biomedical and behavioral science careers. This three-day conference encompassed scientific presentations, professional development workshops, poster and oral presentations, and numerous networking opportunities with faculty and administrators from graduate schools, government agencies, scientific societies and foundations. According to numbers provided by ABRCMS, approximately 2,600 individuals, including 1,650 undergraduate students, 280 graduate students, 30 postdoctoral scientists, and 750 faculty and administrators, attended this meeting.

The APS, represented by the K-12 Minority Outreach Fellow, Mesia Moore Steed, was pleased to present $250 awards to nine undergraduate students for the best oral and poster presentations in the physiological sciences during the conference. Students also receive a complimentary one-year print subscription to *Physiology*, an APS denim shirt and are added to the Minority Physiologists Listserv. Twenty-five judges, including APS members, Kothapa N. Chetty, Grambling State University; Cary W. Cooper, University of Texas Medical Branch; Scott Diamond, University of Kentucky College of Medicine; Latanya Hammonds-Odie, Spelman College; Irving G. Joshua, University of Louisville; Evangeline Motley-Johnson, Meharry Medical College; Nancy Pelaez, California State University, Fullerton; and Roy L. Sutliff, Emory University/Atlanta VA Medical Center, selected the winners:

**Oral Presentations**

Norris Hollie, Oakwood College, Huntsville, AL; Title: "Opioidergic Modification in Heart Failure Development";

Kevin Oguayo, University of Texas at Arlington; Title: "Intermittent Hypoxia Conditioning of Canine Myocardium: Essential Role of Reactive Oxygen Species";

Jamille Robinson, Virginia Polytechnic Institute and State University, Blacksburg; Title: "In Situ Hybridization for Measuring Leptin Receptor mRNA Expression."

**Poster**

Saed Abokor, Fayetteville State University, NC; Title: "Role of Insulin in Prostacyclin-mediated Cardioprotection against Low Flow/Reperfusion Injury in Isolated Rabbit Hearts";

Charles Bell, Wayne State University, Detroit, MI; Title: "The Effects of Hormones, Sodium, Temperature, Monosaccharides, and Anion Exchange Inhibitors on Inositol Uptake in Mammary Explants";

Charles Drummer, University of Delaware, DE; Title: "Regulation of Lipid Metabolism in Drosophilia";

Natasha Flores, Chaminade University of Honolulu, Kaneohe, HI; Title: "Detection of Systemic Levels of Mouse Tissue Plasminogen Activator Following Intravenous Administration"

Vovanti Jones, University of Maryland Baltimore County,; Title: "Measurements of Glutamate Transporter Dynamics";

Shammah O.N. Williams, Oakwood College, Huntsville, AL; Title: "S43126 (Compound I) Activate the PI3K/AKT Signaling Pathway in PC12 Cells."

The APS congratulates the students on a job well done and wishes them the best in their academic pursuits.

The APS Education office also staffed an exhibit booth, highlighting the following awards, programs and resources for minority groups underrepresented in science:

**APS/NIDDK Minority Travel Fellowship**, providing travel support for 50-70 students annually. This fellowship provides funds to attend Experimental Biology and the fall APS conferences. Awardees also are paired with a mentor, an APS member, in their area of research. The intent of this program is to increase participation of pre- and post-doctoral minority students in the physiological sciences.

**Undergraduate Summer Research Fellowship**, supporting up to 12 fellowships each year. Fellowships support full-time undergraduate students to work in the laboratory of an APS member. The goal of this program is to excite and encourage students to pursue a career as a basic research scientist.

**Explorations in Biomedicine Undergraduate Summer Research Fellowship**, which immerses Native American undergraduates from across the nation in the world of cutting-edge physiology and biomedical research for 8-10 weeks during the summer. The Fellowship also provides the student an opportunity to participate in a major sci-

**Best oral and poster presentation awardees at ABRCMS 2006.**

entific meeting to experience the different ways science is communicated.

**Porter Physiology Fellowship Program**, supporting minority students pursuing full-time studies toward a PhD in the physiological sciences.

The Career brochure and updated Career web site, the Archive of Teaching Resources, the Timeline of Physiology, membership for students, and Experimental Biology 2007 also were provided for participants.

The ABRCMS meeting is sponsored by a grant from the National Institute of General Medical Sciences (NIGMS) Minority Opportunities for Research Programs (MORE), which includes the MARC, MBRS: RISE, MBRS: SCORE, MBRS: IMSD, MBRS, and BRIDGES programs and is coordinated by the American Society for Microbiology. For more information see www.abrcms.org. For more information regarding the awards, programs and fellowships administered by the APS Education Office, please visit http://www.the-aps.org/education/index.htm or contact the office at education@the-aps.org or 301-634-7132. ❖

## *PhUn Week 2006*: Promoting the Understanding of Physiology in K-12 Classrooms

APS' member-based annual outreach program, "PhUn Week" (Physiology Understanding Week), generated exciting collaborations between APS members and their local K-12 schools in November 2006. The theme focused on the physiology of exercise and fitness. In partnership with a teacher host, Robin Looft-Wilson, College of William and Mary, and her lab group visited a first grade classroom and explained how the heart and the circulation worked with the help of pictures and heart models, and hands-on activities. Looft-Wilson measured heart rate and blood pressure by using automatic digital cuffs, used stethoscopes with the young children to hear their heart beating, and microscopes to view slides of cardiac muscle and blood vessel cross-sections. Lisa Harrison-Bernard, Louisiana State University Health Sciences Center, and Barbara Goodman, University of South Dakota, led similar activities with fifth and sev-

**Nebraska students watch as Wayne State College physiologists demonstrate how to collect data on exercise and metabolism.**

**Table 1. Participants in PhUn Week 2006.**

| APS Member Coordinator | Teacher(s) | City, State | School Level |
|---|---|---|---|
| Barbara Engebretsen<br>Wayne State College | Ed Brogie, Lee Brogie, Dale Hochstein | Laurel, NE | MS, HS |
| Peter Farrell<br>East Carolina Univ. | Lisa Adams, Leigh Adams | Washington, NC | MS |
| Lisa Harrison-Bernard<br>Louisiana State Univ. | Cecilia Wilson, Danelle Indovina | Metaire, LA | ES, HS |
| Barbara Goodman<br>Univ. of South Dakota | Sally Stoll | Vermillion, SD | MS |
| Robin Looft-Wilson<br>College of William and Mary | Barbara Henning | Williamsburg, VA | ES |
| Laura Lorentzen<br>Kean University | Mary Ellen Woodstock | Roselle, NJ | ES, MS |
| Diane Munzenmaier<br>Medical College of Wisconsin | Deborah Ward | Milwaukee, WI | MS |
| Mesia Moore Steed<br>University of Louisville<br>(2006 APS K-12 Minority Outreach Fellow) | Deanna Gavril, Tim Baker,<br>Margaret Shain (2000 APS Teacher Fellow) | Louisville, KY<br>New Albany, IN | MS<br>MS |
| | Jessica Tiatia<br>(2005 APS Teacher Fellow) | Daly City, CA | HS |

enth grade students, respectively. For another visit to a tenth grade class, Harrison-Bernard adapted downloadable, free instructional resources for middle and high school students from the PhUn Week website, http://www.PhUnWeek.org. Diane Munzenmaier, Medical College of Wisconsin, and her colleagues visited an eighth grade assembly of almost 300 students, and discussed the important functions that proteins carry out in the body and their significance to physiology. Additionally, she modified and presented the middle school version of the physiologist career presentation slides from the PhUn Week website, as did Peter Farrell, East Carolina University in three classroom visits. A more advanced version downloaded from the website was used by Barbara Engebretsen, Wayne State College, who coordinated a high school group of students to visit the human performance labs on campus. Past APS Teacher Fellows, Margaret Shain and Jessica Tiatia, and the 2006 K-12 Minority Outreach Fellow, Mesia Moore Steed, University of Louisville, also enthusiastically participated in PhUn Week 2006 (see Table 1 for a complete list).

**Students in Milwaukee learn how to take a baseline pulse measurement before exercise.**

Both the APS members and the teacher hosts commented that the students were all engaged in the activities and excited to have a guest physiologist team visiting their classrooms. They were all glad to see connections being made by the students at all grade levels between physiology and disease and health, as well as possible careers as a physiologist. The APS provides promotional items, like squeezy hearts, bracelets, wrist sweatbands, or sport-pack bags for students participating in PhUn Week, and t-shirts for the presenting team and the teacher host.

**Students observe how real-time data is collected on measuring fatigue in a human performance lab at Wayne State College.**

Plans are in full motion for the national launch of PhUn Week 2007 during the week of November 5. The theme will again focus on the physiology of exercise and fitness, but APS members are welcome to focus on other areas of physiology. With your participation, the APS is uniquely positioned to deploy a national coordinated event in promoting the understanding of physiology in health and disease. For more detailed information, be sure to attend the PhUn Week training session on Sunday, April 29 at EB 2007, visit: http://www.PhUnWeek.org (sign up for notification of webpage updates), or contact Mel Limson in the Education Office at mlimson@the-aps.org. ❖


**Diane Munzenmaier keeps track of time while students count their pulse.**

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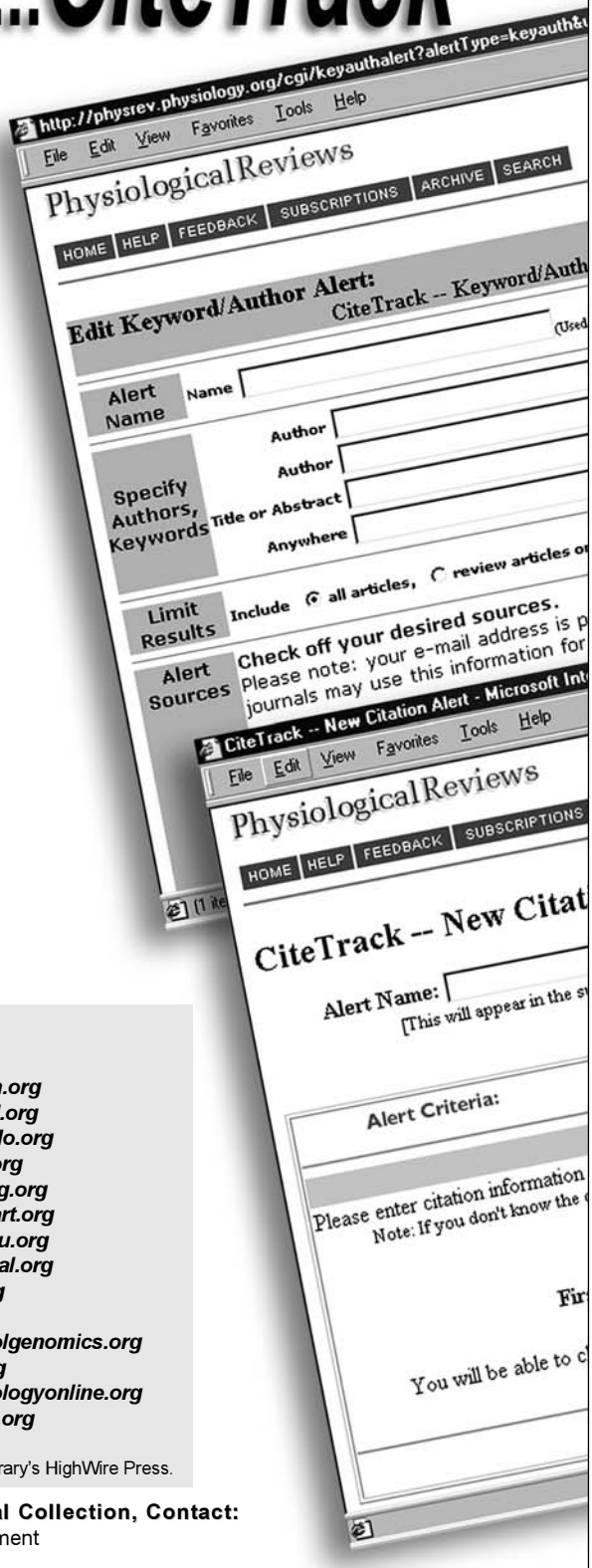


### APS Print and *Online Journals

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| *AJP-Endocrinology & Metabolism* | Jan 1977 - Sept 1997 |
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| *AJP-Renal Physiology* | Jan 1977 - Sept 1997 |
| *Advances in Physiology Education* | June 1989 - Nov 1997 |
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## The XXXVIth International Congress of Physiological Sciences (IUPS 2009)

We are pleased to inform you that the XXXVIth International Congress of Physiological Sciences (IUPS2009) will be held in Kyoto, Japan from July 27th to August 1st, 2009.

When inviting the IUPS2009 to Kyoto, Japan, we proposed the title, "Function of Life: Elements and Integration". The concept behind this title can be summarized by the terms physiome, functional genomics, bioinformatics, in silico physiology, systems physiology, integration, structural biology, nano-technology, imaging, non-invasive technology, gene-targeted animals, translational research, regeneration, cloning, and theory of complex systems, in addition to the conventional physiological terms. To make the congress an exciting and rewarding event for the scientists who will gather from all over the world, we are planning to hold about 24 Special Lectures, 12 Whole-day Symposia, 42 Symposia, 10 PSJ (Physiological Society of Japan) Symposia, 9 Teaching Seminars, 20 Luncheon Seminars and 24 Meet-the-Lecturer Sessions. In addition, some related societies will hold their symposia around the time of IUPS2009. We believe that it is the perfect chance for physiologists from all around the world to meet and discuss various aspects of physiology.

In preparation for this wonderful meeting in Kyoto, the ancient capital of Japan, we have advertised by globally issuing the First and Second Circulars. In addition, the official website for the meeting has been launched at http://www.iups.com/. On our website, we have created a "Call for Symposia" page to collect proposals for IUPS2009 from around the world. The International Scientific Program Committee (ISPC) of IUPS2009 will select 42 symposia from among the proposals submitted through June 18th 2007, and submissions from all over the world are very much encouraged.

The website will be fully utilized. When speakers and the titles of Special Lectures and Symposia are determined, they will be listed on our website, starting from January 2008. Those who prefer printed materials with detailed information about the meeting can have the Third Circular in hand in April 2008.

At this time, 10 Special Lecturers have been determined. (1) Prof. Frances Mary Ashcroft (Oxford University, U.K.), (2) Prof. Clara Franzini-Armstrong (University of Pennsylvania School of Medicine, U.S.A.), (3) Prof. Jeffrey M. Friedman (Rockefeller University, U.S.A.), (4) Prof. Lily Yeh Jan (University of California, San Francisco, U.S.A.), (5) Prof. Kenji Kangawa (National Cardiovascular Center Research Institute, Japan), (6) Prof. Erwin Neher (Max Planck Institute for Biophysical Chemistry, Germany), (7) Prof. Denis Noble (University of Oxford. U.K.), (8) Prof. Mu-ming Poo (University of California Berkeley, U.S.A/China), (9) Prof. Joseph Takahashi (Northwestern University, U.S.A.), and (10) Prof. Masatoshi Takeichi (Riken Kobe Institute and Center for Developmental Biology, Japan) will deliver lectures as Special Lecturers. The names of additional 14 Special Lecturers will be announced in January, 2008. We are confident that every participant will have an excellent opportunity to take advantage of the lectures and other scientific programs.

We will hold Symposia, Whole-day Symposia and PSJ Symposia in which participants can contribute to a lively discussion with several speakers on topics including Locomotion, Circulation/ Respiration, Endocrinology, Reproduction & Development, Neurobiology, Secretion & Absorption, Molecular & Cellular Physiology, Comparative Physiology: Evolution, Adaptation & Environment, Genomics & Biodiversity, Education, and the Physiome.

We also invite proposals for Satellite Symposia which meet the following conditions: (1) Satellite Symposia must be held during the week before or the week following IUPS2009 but may not be held during IUPS2009; (2) venues for the Satellite Symposia must be within 1,200 km of Kyoto, Japan; (3) all the Organizers and Speakers for Satellite Symposia must pay the Registration Fee for IUPS2009; and (4) any proposed Satellite Symposia must be approved by the International Scientific Program Committee. We will accept Satellite Symposia Proposals up until August 2008.

We are intent on doing everything possible to provide an appealing scientific program that will completely satisfy every participant. We are pleased to receive any suggestions or requests. Please feel free to contact us at any time. We look forward to seeing you, all the members of APS, at IUPS2009 in Kyoto. ❖

## Biomedical Research Funding in FY 2008

In early February, the Bush Administration released its fiscal year (FY) 2008 spending request for all federal agencies, including those that fund biomedical research. If this plan were enacted—an unlikely scenario given the Democrats' control of Congress—the National Institutes of Health (NIH) would be slated to receive a cut of about 1% compared to current spending levels. The National Science Foundation (NSF) would receive nearly an 8% increase, funding for human research programs at NASA would go up nearly 3%, and medical and prosthetic research at Veterans' Affairs (VA) would be cut less than one percent. Requested levels and comparisons are shown in Table 1.

Because the Administration issued its FY 2008 budget proposal before Congress finalized FY 2007 funding, agencies had to use last year's proposed spending levels as a reference point for FY 2008 figures. So while the Administration's proposal represented a modest increase for the NIH relative to the original FY 2007 request, it now appears to be a cut because Congress increased the NIH budget by more than $600 million (see Table 1).

The FY 2008 spending request now goes to Congress for consideration, where it is likely that lawmakers will make significant changes to reflect their priorities. Highlights from the budget requests from each of the agencies are below.

### National Institutes of Health

The Administration proposed funding the NIH at $28.621 billion, an increase of $232 million over the FY 2007 request. However, in FY 2008 the agency would be required to transfer an additional $200 million to the Global Fund for HIV/AIDS, Tuberculosis and Malaria, bringing the actual increase to only $32 million over the previous year's request. Compared to the final 2007 funding level, the Administration's 2008 proposal would result in a net decrease of approximately $500 million after accounting for the transfer to the Global Fund.

Despite the minimal increase called for in the Administration's proposal, NIH predicts that it will be able to support 10,188 new and competing awards, an increase over recent years. New awards and renewals will not receive any adjustments for inflation over last year, which will ease some of the budget crunch for the agency but result in decreased purchasing power for all grants after accounting for the biomedical research and development price index (BRDPI), 3.7% for FY 2008.

FASEB's funding recommendation for the NIH in FY 2008 is based upon a model that would help the agency get

**Table 1. Requested funding levels for research programs at federal agencies. All dollar amounts are in billions.**

| | FY 2007 Request | FY 2007 Level | FY 2008 Request | % Change vs. 2007 Request | % Change vs. 2007 Level |
|---|---|---|---|---|---|
| NIH | $28.389 | $28.931 | $28.621 | 0.10% | -1.00% |
| NSF | $6.020 | $5.962 | $6.429 | 6.79% | 7.82% |
| VA (Medical and Prosthetic Research) | $0.409 | $0.412 | $0.411 | 0.50% | -0.24% |
| NASA (Human Research Program) | $0.178 | $0.178 | $0.183 | 2.80% | 2.80% |

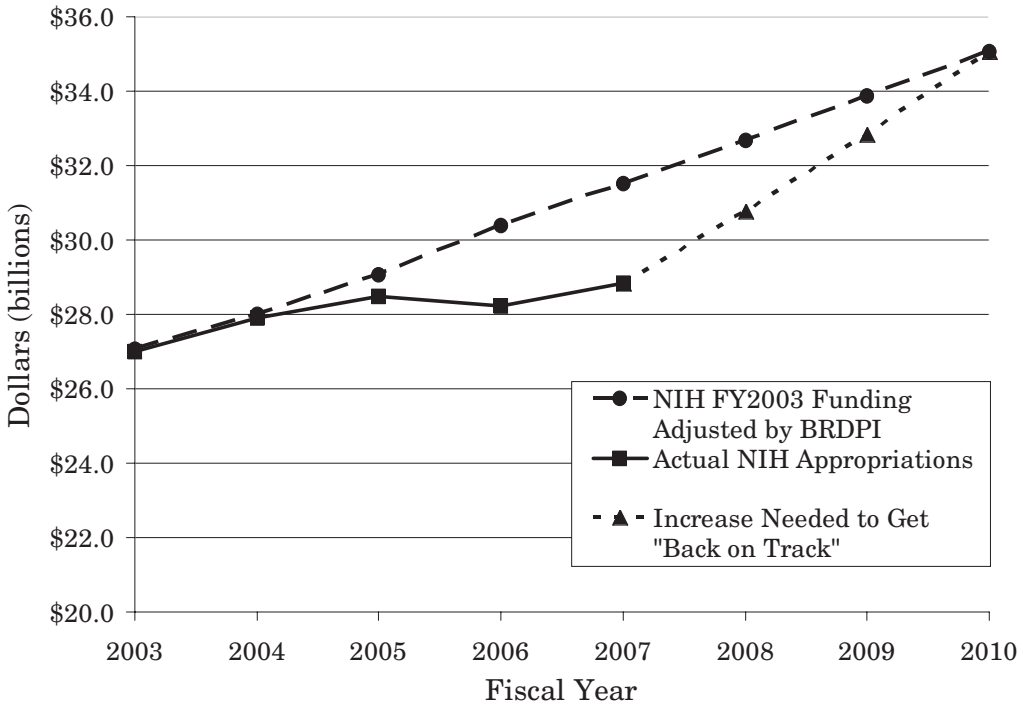


**Figure 1. "Back on Track" model for NIH budgets. A 6.7% increase in each of the next three fiscal years would get NIH back on track by restoring the losses due to inflation as measured by the biomedical research and development price index (BRDPI), which indicates how much the NIH budget must change to maintain purchasing power. By FY 2010, this would return NIH to the funding level it would have attained receiving only inflationary increases since FY 2003. Graph courtesy of the FASEB Office of Public Affairs.**

"back on track" after consecutive years of sub-inflationary increases (Figure 1). Based on the size of the NIH budget at the end of the doubling in 2003, FASEB calculated what the budget would be each year out to 2010 if it received a yearly inflationary increase. Based on those calculations, FASEB recommends a 6.7% increase over each of the next three years to return the agency's purchasing power to the level it achieved in 2003.

For more information on the NIH budget, see http://officeofbudget.od.nih.gov/PDF/Press%20info-2008.pdf.

**National Science Foundation**

As one of the agencies included in the Administration's American Competitiveness Initiative, the NSF is slated to receive a sizable increase for the second year in a row. The Administration proposes an increase of 7.82% over current levels, bringing the agency to $6.4 billion. This would keep NSF on track to double its budget over the next 10 years and comes very close to the level of funding that FASEB recommends for NSF this year, $6.5 billion.

Included in the NSF budget are increases for Research and Related Activities (R&RA), as well as the Education and Human Resources Directorate. Within R&RA, the BIO directorate would receive an increase of more than 4%.

For more information on the NSF budget, see http://www.nsf.gov/about/budget/fy2008/.

**Veterans Affairs Medical and Prosthetic Research**

After proposing a $3 million cut to the VA medical and prosthetic research budget last year, the Administration proposes to fund VA research programs at $411 million in FY 2008. This figure is $2 million above the FY 2007 proposal, but represents a $1 million cut when compared to the final FY 2007 level. Because funding for medical and prosthetic research at the VA has stagnated in recent years, FASEB is recommending that the program receive $480 million, as well as an additional $45 million for infrastructure improvement.

For more information on the VA budget, see http://www.va.gov/budget/summary/VolumeIMedicalPrograms.pdf.

**NASA**

Despite the Administration's request for an increase in the total NASA budget, research programs in the life sciences continue to lose out at the agency. Following on last year's drastic cuts to the biological research program, the Administration recommends a slight increase to $183.4 million. FASEB recommends an increase of at least $39.5 million over last year's request for life sciences research at the NASA.

For more information on the NASA budget, see http://www.nasa.gov/about/budget/.

## NIH Gathers Information on Peer Review

The Center for Scientific Review (CSR) at the National Institutes of Health is conducting a series of six workshops this year to solicit feedback from the scientific community on the current study section alignment. The purpose of these "Open Houses" is to obtain input from the extramural community on the peer review process, and more specifically the structure and alignment of the integrated review groups (IRGs). IRGs and study sections were last reorganized seven years ago, resulting in the current structure. This study is being undertaken to ensure that the alignment of the study sections is still relevant given the current state of the various scientific disciplines. Study sections have been grouped roughly by topic, and a complete schedule of the Open House workshops is available by going to the CSR website (http://cms.csr.nih.gov/AboutCSR/OpenHouses.htm).

Participants in the Open House workshops will include chairs of the relevant Standing Study Section, representatives of scientific societies, NIH leadership and senior scientists. Meeting agendas are expected to include presentations about the current study section alignment for the scientific areas in question, as well as smaller breakout group discussions on study section alignment and other scientific issues related to peer review. Questions to be addressed include whether the relevant scientific disciplines are fairly evaluated within the current study section alignment, whether emerging areas are well served, and whether there are aspects of the discipline that are not being served well by the present organizational structure. Following the meetings, materials from the workshops will be posted online for additional comments and input from the scientific community and the public. The information collected will then go to the Peer Review Advisory Committee (PRAC) which will guide implementation of any changes.

The APS has had longstanding concerns about the evaluation of integrative physiology proposals under the current system, and will be represented at the workshops both by staff and whenever possible by APS members from the relevant sections. To make the best use of this important opportunity to provide input, the APS public affairs committee has launched an effort to collect data from APS members on peer review issues. Data is being collected via web based surveys administered section by section as the appropriate CSR Open House workshop approaches. The first survey, consisting of approximately 10 questions, was distributed to the APS Central Nervous System (CNS) and Neural Control and Autonomic Regulation (NCAR) sections earlier this year. The information gathered thus far has proven extremely useful in providing the perspective of scientists actively engaged in grant submission and review. APS members are invited to provide input both through the surveys and directly through the NIH website once workshop materials are posted.

## PETA Kills Animals

Two employees of People for the Ethical Treatment of Animals (PETA) were found guilty of littering after they were caught throwing the bodies of dogs and cats into a North Carolina Dumpster. The incident took place on June 15, 2005 behind a Piggly Wiggly in Ahoskie, NC. The pair, Adria Hinkle and Andrew Cook, was brought to trial on charges of animal cruelty, obtaining property by false pretenses, and littering. On February 2, 2007, a jury found them guilty of the littering charge only. Superior Court Judge Cy Grant sentenced them to 10 days suspended jail time, a year of probation, 50 hours of community service and nearly $8,000 in fines and restitution to be split between them. Although they were convicted only of a minor offence, the 10-day trial brought to light PETA's unapologetic willingness to euthanize healthy, adoptable animals. Andrea Press of Responsible Dog Owners of Eastern

States called the verdict "a disgrace." "PETA preaches to everybody not to hurt and kill animals" said Press, "They're hypocrites."

The animals had come from shelters in three North Carolina counties. Animal shelters in Bertie, Hertford and Northampton County and the Ahoskie Animal Hospital had been turning healthy animals over to PETA employees with the understanding that PETA would try to find them homes. A representative from a local animal adoption organization said that it was generally believed that PETA was "taking animals back to Virginia where there is more of a chance to find them homes." Instead the PETA employees had been euthanizing the animals in their van while still in shelter parking lots. After Hinkle and Cook were arrested, Bertie, Hertford and Northampton Counties stopped turning animals over to PETA.

The revelation has shocked many. NoKillNow.com, a group of no-kill shelter activists, including some disillusioned former PETA members, has called on PETA president Ingrid Newkirk to resign. Even those in the biomedical research community who have long been wary of PETA's misrepresentations were taken aback by the blatant deception. "The alleged killing and dumping of highly adoptable puppies and kittens is appalling and sickening behavior that must cast serious doubt on the legitimacy of PETA, and their true objectives," said Frankie Trull, President of the Foundation for Biomedical Research.

Hinkle and Cook were arrested because of an investigation that was initiated after the bodies of dead dogs and cats had begun appearing in the Piggly Wiggly Dumpster on a near weekly basis. Trial testimony revealed that not only were Hinkle and Cook following orders in euthanizing the animals, but also that other PETA employees were responsible for more than half of the dumped animals.

Four lawyers representing PETA argued in the Hertford County Courthouse that the case was a conspiracy to target PETA. PETA's legal team further insisted that, despite their testimony to the contrary, shelter employees knew the animals were going to be euthanized. According to Hinkle's attorney, Blair Brown, shelter employees knew that "PETA kills animals."

Valerie Asbell, the district attorney for all three counties, rebutted this accusation. She asked why, if everyone knew the animals were being euthanized, did PETA employees hide the bodies in a Dumpster, rather than leaving them with the shelter. She also asked why an animal hospital with a veterinarian on staff would ask PETA employees to drive down from Virginia to euthanize its animals. This is particularly puzzling since pentobarbital, the drug used to put down the animals, is a controlled substance that neither PETA, Hinkle nor Cook is licensed to handle in North Carolina.

PETA insisted that it was unrealistic to expect homes to be found for the animals. Volunteers for other local adoption efforts, however, felt differently. According to the *Raleigh News and Observer*, Cheryl Powell had been successfully finding homes for many Bertie County shelter animals. When PETA began working with the shelter, Powell's help was no longer welcome, the paper reported. Meanwhile, in Hertford County, the all-volunteer group PAWS has successfully placed 182 animals in just five months, which is more than PETA adopted out nationally in all of 2005. ❖

# Communications

## APS Underwrites Seminar Series for New Orleans Graduate Students

The American Physiological Society has allotted $6,000 to the Louisiana State University (LSU) Health Sciences Center to underwrite the cost of seminar speakers for physiology graduate students in New Orleans. The grant is in addition to $88,000 the Society distributed to physiology graduate and postdoctoral students after Hurricane Katrina ravaged large parts of the city in 2005.

The latest grant will benefit students at LSU and Tulane University. Students from both universities will help select the seminar speakers. Patricia Molina, LSU professor of physiology, will oversee the program. The Society provided the money at the request of APS member Johnny Porter, also an LSU physiology professor.

"We are grateful to the Society for its continued support," Porter said. "The value of such national support cannot be overstated as we continue to rebuild."

Shortly after Katrina hit, the APS awarded grants totaling $88,000 to help graduate and postdoctoral students get back on their feet. Society members donated $18,000 of the total distributed. The APS also served as an online clearing house of information in the weeks following the devastating storm. ❖

## The *New York Times*, *Smithsonian* Magazine, and *Philadelphia Inquirer* Cover APS Studies

The Communications Department issued nine press releases during January and February, producing some solid media coverage. Case in point: a release on a penguin study that appeared in the *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology* piqued the interest of an editor at *Smithsonian* Magazine. The Magazine plans to run a summary and photo in the April issue.

This "hot pick" study also was written up on *The New York Times* science blog. You can read all about it at http://tierneylab.blogs.nytimes.com/2007/02/01/.

Another "hot pick" study on salt and low birthweight infants received on-air coverage at 141 television and radio stations in just one day. In addition, the online editions of *Scientific American, The Washington Post, MSNBC,* the *Calgary Sun* and *Forbes Magazine,* among others, covered this study, which appeared in the *American Journal of Physiology–Regulatory, Integrative and Comparative Physiology.*

In other highlights, the *Inquirer* covered a study from the *Journal of Applied Physiology* that ran a front page. The study focused on the ability of the elderly to manage the cold.

*Science News, CBC News* and the online edition of *Forbes* did features on the science of Groundhog Day. Those stories were based on a "Calendar of Physiology" release. A Colorado television station did a feature on the science of Groundhog Day which focused on Greg Florant's work. You can go to 9News, the NBC affiliate in Denver, to see that story. The calendar releases are tied to seasonal events and are another way to get out word about physiology to the general public.

Here is the complete list of releases for January and February, along with links:

Like Salty Food? Chances Are You Had Low Blood Sodium When You Were Born (*American Journal of Physiology – Regulatory, Integrative and Comparative Physiology*): http://www.the-aps.org/press/journal/07/3.htm.

Elderly's Ability to Manage the Cold May Be Due In Part to Some Aging Processes of the Body (*Journal of Applied Physiology*): http://www.the-aps.org/press/journal/07/2.htm.

Active Ingredient In Common Chinese Herb Shown To Reduce Hypertension (*American Journal of Physiology – Heart and Circulatory Physiology*)**:** http://www.the-aps.org/press/journal/07/1.htm.

February 2: It's Not Just for Groundhogs, Anymore (Calendar release): http://www.the-aps.org/press/journal/07/4.htm.

Nicotine: The Link Between Cigarette Smoking and Kidney Disease Progression? (*American Journal of Physiology–Heart and Circulatory Physiology*): http://www.the-aps.org/press/journal/07/5.htm.

For The "March Of The Penguins©" Stars, Huddling And A Drop In Metabolism Allow Them To Survive The Biting South Pole Cold (*American Journal of Physiology–Regulatory, Integrative and Comparative Physiology)* http://www.the-aps.org/press/journal/07/6.htm.

New Study Adds Further Confirmation That Circadian Rhythm Exists in Athletic Performance (*Journal of Applied Physiology*) http://www.the-aps.org/press/journal/07/8.htm.

The Metabolic Response to Colitis Varies Depending Upon Whether Inflammation Is Chronic Or Acute (*American Journal of Physiology, Gastrointestinal and Liver Physiology)* http://www.the-aps.org/press/journal/07/7.htm.

Research Physiologists Convene For 120th Annual Meeting (Meeting release): http://www.the-aps.org/press/journal/07/9.htm.

If you know of a study that is in Articles in Press and might be of interest to the general public, please drop a line to Communications Director Donna Krupa at dkrupa@the-aps.org or call her at 301-634-7209. ❖

## Worried About Funding Trends? Learn what you can do about it at the Communications Symposium

If you plan to attend Experimental Biology 2007 in Washington, consider learning how to advocate for biomedical research with your representatives in Congress. This is a session that can help you go to the Hill with confidence.

The Communications Committee will sponsor the symposium "Making the Case for Federally-funded Research—Communicating with Congress." The forum will serve as an introduction and training session for those who attend.

The symposium has four speakers:

Jon Retzlaff, director of legislative relations, Federation of American Societies for Experimental Biology;

Stacie Propst, director of science policy, Research!America;

William T. Talman, professor, University of Iowa, and past chairman of the APS Public Affairs Committee;

Sarah England, associate professor, University of Iowa, and former fellow on Sen. Hillary Clinton's staff.

The speakers will talk about the status of appropriations before Congress, what lawmakers want to hear about from researchers and which messages are the most effective. In addition, the speakers will describe how to:

present yourself on a visit

develop ongoing relationships with your lawmakers

help your legislators talk about research issues at home

Please join us for this symposium at 1 p.m. Saturday, April 28 in Room 155 of the Washington Convention Center. ❖

## Postdoctoral Positions

**Postdoctoral Fellow:** A recently-funded position is immediately available for up to three years to study the regulation of expression voltage gated calcium channels in vascular smooth muscle. A variety of experimental approaches will be employed in these studies including patch clamp electrophysiology of Ca2+ channels in native smooth muscle myocytes and heterologously expressed in mammalian cells; analysis of gene and protein expression; and analysis of functional activity of Ca2+ channels in resistance arteries. Interested applicants with experience in patch clamp methods or isolated resistance artery techniques are encouraged to apply. Salary is based upon experience and NIH salary levels. Interested applicants should send a cover letter, curriculum vitae, and names of three references to: Robert H. Cox, PhD, Ion Channel Laboratory, Lankeanu Institute for Medical Research, 100 E. Lancaster Avenue, Wynnewood, PA 19096; email: coxr@mlhs.org; Home Page: http://www.limr.org.

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**Postdoctoral Research Fellow:** Opening available July 1, 2007 (or sooner), in an active, independent, NIH/AHA-funded laboratory investigating the involvement of mitochondrial/metabolic pathways in acute myocardial ischemia and in congestive heart failure. This laboratory employs mouse models of in vivo ischemia-reperfusion injury and heart failure, including echocardiographic assessment of ventricular function. In addition, the lab performs physiologic studies in isolated cardiac myocytes and isolated mitochondria to establish unique mechanisms of mitochondrial-dependent cell survival. Thus, outstanding candidates with backgrounds in any one of several basic science areas could be suitable. The successful candidate(s) will have exceptional oral and written communication skills, superlative recommendations from current advisors, and substantial personal initiative. Fellows will be expected to present data from the laboratory at national/international scientific conferences, compose manuscripts, and assist in experimental design. Please send a statement of research interests, curriculum vitae, and three letters of reference to: Steven P. Jones, PhD, Assistant Professor of Medicine, Institute of Molecular Cardiology, University of Louisville, 570 S. Preston Street, Baxter I - Room 119D, Louisville, KY 40202; Email: Steven.P.Jones@Louisville.edu. [AA/EOE]

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**Postdoctoral/Research Associate Position:** Department of Neurosciences, Case Western Reserve University. The laboratory of Lynn Landmesser is seeking a highly motivated postdoctoral fellow to pursue studies on the generation and role of spontaneous, rhythmic activity in spinal cord circuit formation and motor axon pathfinding (Hanson and Landmesser, Neuron 2005; *J.Neurosci*. 2006). Approaches will include driving activity in specific subpopulations of cells via genetically encoded light activated channels and multiphoton confocal Ca2+ imaging at the single cell level under control and experimental conditions. Downstream molecular signaling pathways will also be elucidated. Applicants must possess a PhD degree and a strong background in neuroscience and those with experience in electrophysiology and fluorescent imaging are especially encouraged to apply. State-of-the-art equipment and facilities are available. We offer an exciting research environment for individuals who want to make significant contributions to this emerging area. Please submit a CV and three references to: Lynn Landmesser, Department of Neurosciences, Case Western Reserve University, Cleveland, OH 44106-4975; Email: lynn.landmesser@case.edu.

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**Postdoctoral Fellow:** A position is immediately available to study the systemic microvascular effects of pulmonary exposure to various airborne pollutants and manufactured nanoparticles. A variety of vascular beds and experimental approaches will be employed in these studies including inhalation exposure; intravital microscopy; isolated microvessels; micropipette-based techniques and various in vitro techniques. Interested applicants with experience in the isolated microvessel technique are encouraged to apply. The candidate must have exceptional oral and written communication skills, and display initiative as well as independence. The candidate will be expected to present research findings at scientific conferences, compose manuscripts, assist in experimental design, and apply for postdoctoral funding (NIH, AHA). Salary is based upon experience and NIH salary levels. Initial funds are available for two years. Please send a statement of research interests, curriculum vitae, and three letters of reference to: Timothy R. Nurkiewicz, PhD, Center for Interdisciplinary Research in Cardiovascular Sciences, PO Box 9105, West Virginia University, Morgantown, WV 26506-9105; Email: tnurkiewicz@hsc.wvu.edu; Home Page: http://www.hsc.wvu.edu/circs/Investigators/nurkiewicz.asp.

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**Postdoctoral Research Opportunity:** A postdoctoral position is available immediately in the Department of Biochemistry, Molecular Biology and Biophysics at the University of Minnesota to work with a team of investigators to advance development of therapy for Duchenne muscular dystrophy and/or contribute to our ongoing aging research in muscle. Applicants should have a PhD or MD with a strong background in animal models of disease, muscle biology, or skeletal muscle physiology. To apply, please send curriculum vitae and contact information for three references via email to Dawn A. Lowe, PhD; Email: lowex017@umn.edu.

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**Postdoctoral Research Associate:** Physiology. The University of Arizona, Tucson, is seeking a Postdoctoral Research Associate to conduct research on regulation of the sodium pump and other ion transport mechanisms. Studies, which relate to glaucoma and cataract, will be conducted on eye tissues. The studies involve western blot analysis and cell culture and experience in these areas would be an advantage. Qualifications include a PhD. To apply, please go to http://www.careertrack.com and search Job # 37214. Review of applications begins on February 5, 2007. [EEO/AA M/W/D/V]

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**Postdoctoral Positions:** We are looking for Postdoctoral Fellows/Research Associates to study lipid mediators of fever and hypothermia in systemic inflammation, physiological roles of transient receptor potential channels, and behavioral thermoregulation in rats and mice. Recent publications from the

Laboratory include *PLoS Biol* 4: e284, 2006 and *PLoS ONE* 1: e1, 2006. Highly motivated individuals with an enthusiastic interest in our research program are invited to apply. Background in systems physiology, molecular biology, or immunohistochemistry/neuroanatomy is preferred, but the ability to think and work independently, dedication to work, and persistence in the face of failure are more important than the area of specialization. A specific direction of research will be determined jointly with the laboratory director to closely match the line of expertise and interests of each successful candidate. Mandatory requirements include an advanced degree, a track record of peer-reviewed publications, excellent computer skills, and good writing skills. Send your curriculum vitae, reprints of full-length papers, a brief description of research interests and career goals, and names, Email addresses, and telephone numbers of at least two references to: Andrej A. Romanovsky, MD, PhD, Director, Systemic Inflammation Laboratory, Saint Joseph's Hospital, 350 W. Thomas Road, Phoenix, AZ 85013; Email: aromano@chw.edu. [AA/EOE]

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**Postdoctoral/Research Associate:** The laboratory of Stefan Herlitze in the Department of Neurosciences, Case Western Reserve University, is seeking a highly motivated postdoctoral fellow to pursue studies on the role of G-protein modulation in neuronal circuits underlying anxiety and depression. Approaches will include single neuron and neuronal network characterization of transgenic and knock-out animals expressing genetically encoded light activated switches (Li et al., *PNAS* 2005) and RGS2 mutants (Han et al., *Neuron* 2006) in the serotonergic system of mice using patch-clamp and multiphoton imaging. Applicants must possess a PhD degree and a strong background in neuroscience and those with experience in electrophysiology and fluorescent imaging are especially encouraged to apply. State-of-the-art equipment and facilities are available. We offer an exciting research environment for individuals who want to make significant contributions to this emerging area. Please submit a CV and three references to: Stefan Herlitze, Department of Neurosciences, Case Western Reserve University, Cleveland, OH 4106-4975; Email: Stefan.Herlitze@case.edu.

**Postdoctoral Position:** Coronary Physiology. An opportunity to study the control of coronary blood flow during exercise. Eligibility for NIH training grant position with US citizenship or residency is required. Please send a curriculum vitae and references to Eric Feigl, MD, Department of Physiology 357290, University of Washington, Seattle, WA 98195-7290.

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**Postdoctoral Position**: Renal-Electrolyte Division, Department of Medicine, University of Pittsburgh. A position is immediately available for a highly motivated postdoctoral fellow to pursue studies on the coupling of ion channels (CFTR and ENaC) to cellular metabolic status via the energy sensor AMP-activated protein kinase. A variety of experimental approaches will be employed in these studies, including electrophysiological (patch clamp, two-electrode voltage clamp, and Ussing chamber measurements), biochemical (e.g., phosphorylation and binding assays, surface biotinylation, and blotting), and molecular (e.g., mutagenesis, stable transfection/transduction, and knockdowns). State-of-the-art equipment and facilities are available. Interested applicants with experience in electrophysiology, membrane transport, and biochemistry are encouraged to apply. Applicants must possess a PhD degree (or equivalent), should have excellent oral and written communication skills, and display initiative as well as independence. The candidate will be expected to present research findings at scientific conferences, compose manuscripts, assist in experimental design, and apply for extramural post-doctoral funding during the first year of work. Salary is based upon experience and NIH salary levels. Please send a statement of research interests, curriculum vitae, and the names and contact information of three references to: Ken Hallows, MD, PhD, Renal-Electrolyte Division, Department of Medicine, University of Pittsburgh, S976 Scaife Hall, 3550 Terrace Street, Pittsburgh, PA 15261; Email:hallows@pitt.edu; Webpage: http://www.dept-med.pitt.edu/renal/faculty/faculty_info.asp?id=343&UserLname=Hallows; EB meeting symposium: http://www.the-aps.org/meetings/eb07/abs/camps-hallows.htm.

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**Postdoctoral Fellow:** GlaxoSmithKline, Requisition #39164. At GlaxoSmithKline, scientists in Research and Development are committed to capturing this moment. They bring to it their own very considerable abilities, the resources of a parent company devoted to the scientific enterprise, and the urgency of knowing that their highest purpose is the relief of human suffering. In pursuit of this purpose, they desire to make of GlaxoSmithKline a magnet for others who share their talents, whether as prospective corporate colleagues or as collaborators in industry, academe, and government. GlaxoSmithKline is dedicated to an innovative workplace and supports you with career long opportunities and learning. We offer a competitive benefits and compensation package designed to attract and retain the very best. The Cardiovascular and Urogenital Center for Excellence in Drug Discovery is seeking an outstanding candidate for a postdoctoral fellowship in the Vascular Biology Department. This role will be based at our King of Prussia, PA facility. This individual will conduct research directed toward understanding genetic mechanisms regulating endothelial cell biology in cardiovascular disease, and will develop assays for target validation and for determining mechanisms of action of novel tool compounds. This position offers a unique opportunity for a PhD scientist to develop their career and publish his/her work in an innovative multidisciplinary drug discovery environment. Requires a PhD in Molecular or Cellular Biology, or related discipline (Pharmacology, Physiology, etc.). Also requires a knowledge base and laboratory research experience in cardiovascular disease. Proficiency in manipulation of genetic pathways along with experience in analysis/mutagenesis of promoter regions is highly desired. Laboratory research experience in the field of vascular biology and/or endothelial cell biology is preferred. Candidates must possess excellent interpersonal, communication, and writing skills. We offer a competitive total compensation package as well as an environment conducive to personal and professional growth. No agency referrals please. To be considered for this position, please visit our webpage and apply directly online: http://www.gsk.com/careers/index.htm, and search for requisition #39164. Developing talent through equality of opportunity, M/F/D/V.

## Faculty Positions

**Assistant Professors:** The Department of Physiology at Texas Tech University Health Sciences Center (TTUHSC) invites applications from scientists for several tenure-track positions at the rank of Assistant Professor in the Medical School. Exceptional candidates may be considered for more senior positions. The successful candidates will be expected to develop and/or maintain an independent program of research with external funding in the general areas of Cell Physiology and/or Molecular Biophysics. Individuals interested in structure, function or pathophysiology of membrane proteins will be given special consideration. Participation in medical and graduate training is expected. Dr. Luis Reuss has been recruited as Chair of Physiology and, in conjunction with other faculty in the Medical School and the University, will develop an Institute for the Study of Membrane Proteins. Review of applications will start in January 2007. Applicants should send electronically a current CV, an outline of research plans, and the names and addresses of three or more potential referees to: Ariel Escobar, PhD, Chair, Physiology Search Committee, Department of Physiology, Texas Tech University Health Sciences Center, Lubbock, TX 79430; Email: Physiology.Search@ttuhsc.edu. [EEO/AA/ADA]

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**Assistant/Associate Professor:** The Department of Physiology at LSU Health Sciences Center in New Orleans, LA seeks outstanding candidates for up to three tenure-track faculty positions at the Assistant or Associate Professor level. The successful candidate must have a PhD and/or MD degree or equivalent with a strong record of research accomplishments. Expertise in all areas of physiology will be considered, but special consideration will be given to those that complement the existing research strengths of the department that include pathophysiology of the host defense response to oral, lung or systemic inflammation & infection, renal physiology, cardiovascular physiology, traumatic injury, and obesity & diabetes. LSUHSC-NO Faculty Members have full access to Core Laboratories which support research involving genomics, proteomics, imaging, and flow cytometry. Opportunities are available for interaction with the Centers of Excellence in Alcohol and Drug Abuse, Cancer, Cardiovascular Biology, Neuroscience and Oral Biology, as well as the Program in Gene Therapy. Successful candidates will have a demonstrated ability to establish an externally funded research program, to train graduate students/postdoctoral fellows, and to participate in the department's graduate and undergraduate teaching programs. An excellent start-up package, competitive salary, and state-of-the-art instrumentation are available for each position. Applicants should send curriculum vitae that includes previous and current research funding, teaching experience, a statement of research plans, and the names of at least three references to: Attn: Physiology Faculty Recruitment, LSU Health Sciences Center, 1901 Perdido Street, Box P7-3, New Orleans, LA 70112-1393; Email: physiologyrecruit@lsuhsc.edu. [EEO/AA]

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**Assistant/Associate Professor:** Faculty Position—Exercise Physiology, University of Michigan. The Division of Kinesiology at the University of Michigan invites applications for a tenure-track faculty position at the Assistant or Associate Professor level. Individuals with training and experience in basic, clinical or translational exercise physiology or a closely related discipline are encouraged to apply. Priority will be given to applicants studying innovative research questions in either humans or animal models. Applicants must hold a PhD or equivalent with postdoctoral training and have a record of research publications in high quality journals. At the Assistant Professor level, potential to attract external funding is required, and teaching experience is desirable. At the Associate Professor level, an established independent research program, a successful record of external funding, and teaching experience are required. Responsibilities of the position include developing a strong research program with interdisciplinary collaborations, teaching courses in exercise physiology, and mentoring graduate students. The Division of Kinesiology at the University of Michigan is one of 19 degree-granting academic units on the Ann Arbor campus. Detailed information on the Division of Kinesiology, including its faculty, laboratories and instructional programs, is available at the following website: http://www.kines.umich.edu/. Review of applications will begin March 9, 2007 and will continue until the position is filled. Minorities and women are especially encouraged to apply. To apply, send electronic copies (e.g., pdf files) of your letter of application, curriculum vitae, two-page research statement, and names and contact information (mailing address, phone number, and Email address) for three references to: Marsha Lewis, Division of Kinesiology, The University of Michigan, Email: mhlewis@umich.edu. For more information, please contact Greg Cartee, PhD, Email: gcartee@umich.edu. Division of Kinesiology: http://www.kines.umich.edu; University of Michigan: http://www.umich.edu; Benefits Information: http://www.umich.edu/~benefits/. [AA/EOE]

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**Chair:** The Morehouse School of Medicine is seeking a Chair for its Department of Physiology. The successful candidate will be an outstanding nationally-recognized scientist and academician, who will be responsible for continued development of the department and will guide its research and education missions. Candidates (PhD or MD) with strategic vision and a strong record of research in any area of the physiological sciences will be considered. Excellent interpersonal skills, scientific leadership, and commitment to mentoring junior faculty are essential. Credentials appropriate for the rank of Professor are required. Areas of ongoing funded research within the department include cancer biology and reproductive, gastrointestinal, and cardiovascular physiology. Additional information is available at http://www.msm.edu/physiology/index.htm. Opportunities for collaboration and program development within the institution are available through the Center for Reproductive Science, Cardiovascular Research Institute, Neuroscience Institute, Clinical Research Center, Cancer Biology Program, and other basic and clinical departments. The Department of Physiology contributes to the integrated curriculum of the medical education program and to the training of graduate students through the interdisciplinary PhD program in Biomedical Sciences. Interested applicants should submit a curriculum vitae and a letter of interest,

either electronically (cbartlett@msm .edu ) or by mail: Dr. Myrtle Thierry-Palmer, Chair, Physiology Chair Search Committee, Room 349 Hugh Gloster Building, Morehouse School of Medicine, 720 Westview Drive, SW, Atlanta, GA 30310. Correspondence will be kept confidential. Review of candidates will begin as applications are received and continue until the position is filled. [AA/EOE]

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**Tenure Track Positions:** Onondaga Community College, a college of the State University of New York located in Syracuse, invites applications to fill two full-time tenure-track positions teaching Biology: *1*) *Anatomy & Physiology* is an introductory-level two-semester course offered primarily for students entering health-related professions; *2*) *Principles of Biology* is a one-semester course in fundamental biological concepts to prepare students for classes such as Anatomy & Physiology. Qualification Requirements: Masters degree in a relevant biological science discipline (or a closely related field) from an accredited college or university; a doctorate is preferred. Relevant clinical degrees will also be considered; introductory-level college teaching experience, including both lecture and laboratory components of a course. To learn about the application process and additional information, please visit http://www.sunyocc.edu. [AA/EOE]

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**Assistant Professor:** The Department of Kinesiology and the newly formed Center for Metabolic Biology at Arizona State University invites applications for a tenure-track position at the Assistant Professor level in the Department of Kinesiology beginning in the fall of 2007. The Center for Metabolic Biology is a multidisciplinary group of basic scientists comprised of members of the School of Life Sciences, Department of Kinesiology and Department of Chemistry and Biochemistry. The mission of the Center is to unravel the basic mechanisms underlying the insulin resistance syndrome. A faculty member is sought who studies metabolic physiology using human, animal or in vitro models. Research areas could include the role of inflammatory response, lipids, or mitochondrial dysfunction in insulin resistance, and/or the role of muscle contraction in improving insulin action. The candidate will be expected to carry out an active, externally-funded research program, teach undergraduate and graduate courses and train graduate students and/or postdoctoral research fellows and participate in professional and university service. Required Qualifications: *1*) earned doctorate in appropriate discipline; *2*) evidence or potential evidence of a publication record consistent with rank in appropriate journals; *3*) experience or potential experience, appropriate to rank, of teaching undergraduate or graduate courses in an appropriate discipline; *4*) evidence or potential evidence, appropriate to rank, of funded research or the potential to develop a funded research program; and *5*) evidence of a desire to work within a multidisciplinary environment. Desired Qualifications: *1*) at least two years of postdoctoral research experience; *2*) demonstrated evidence of college/university teaching experience; and *3*) evidence of a research focus compatible with research of current ASU faculty in metabolic physiology. Application Requirements: To apply, please submit the following: *1*) letter of application highlighting your academic expertise and professional accomplishments; *2*) a statement of research focus and accomplishments; *3*) a statement of teaching experience and philosophy; *4*) a current curriculum vitae; *5*) three representative publications; and *6*) three letters of recommendation. Send applications by Email to Nicole.barr@asu.edu. Electronic applications are preferred but hard copies will also be accepted and must be sent to: Chair, Metabolic Physiology Search Committee, Center for Metabolic Biology, Arizona State University, Box 873704, Tempe, AZ 85287-3704. Application Deadline: **March 1, 2007**; if not filled, weekly thereafter until search is closed. [AA/EEO] A background check is required for employment.

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**Assistant Professor:** The University of Arizona, Department of Physiology is seeking applicants for two tenure track faculty positions at the rank of Assistant Professor with an anticipated start date of Fall 2007. The successful candidates will be expected to establish a nationally recognized research program. The interests of the Department include the physiology of the nervous, visual, endocrine and cardiovascular systems, with approaches integrated from the molecular to the systems levels. Techniques in transport, advanced imaging, biophysics, and proteomics will complement research strengths in place in the Department and University. (See http://www.physiology.arizona.edu) Qualifications include a PhD (or equivalent doctoral degree) and a strong publication record. The successful candidates will contribute to the educational mission of the department, which includes teaching medical, graduate and undergraduate students. A competitive start-up package is available. The Department of Physiology has a strong tradition of research collaboration with other academic units at the University of Arizona. Opportunities exist for a shared appointment with the Cancer, Cardiovascular, Neuroscience and Diabetes Research Themes. To apply, please go to http://www.careertrack.com and search Job # 37153. Review of material begins on March 1, 2007. [EEO/AA M/W/D/V]

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**Adjunct Assistant Professor:** The Department of Physiology, University of Kentucky Medical Center (http://www.mc.uky.edu/physiology) seeks a bright, motivated colleague to join our adjunct faculty. Biomedical scientists with a MS, PhD, or equivalent degree and at least two years of experience in laryngeal muscle biology are encouraged to apply. Applicants must possess expertise in anatomy and physiology of the head and neck musculature, particularly the intrinsic muscles of the larynx. Experience with contemporary cell and molecular biological techniques, including DNA microarray analysis and interpretation, is essential. Experience with mammalian cell culture, small animal anesthesia, and nonsurvival surgery are also valuable. Preference will be given to individuals with a record of peer-reviewed publications and independent extramural research funding. Interested individuals should forward their curriculum vitae, a one-page summary of research interests, and the names of three references to: Search Committee Administrator, Department of Physiology, University of Kentucky Medical Center, 800 Rose Street, Room MS-508, Lexington, KY, 40536-0298. The University of Kentucky strongly encourages applications from women, minorities, and people with disabilities. [AA/EOE]

**Associate Professor:** The Department of Physiology at the University of Kentucky Medical Center, (http://www.mc.uky.edu/physiology) seeks a bright, motivated colleague to join our tenured faculty. Biomedical scientists with a PhD, MD, or equivalent degree and at least ten years of experience in teaching medical physiology are encouraged to apply. Applicants must possess expertise in all aspects of systems physiology and be capable of course development and direction at the undergraduate medical school, and dental school levels. Scholarly activity in physiology research, educational theory and practice, or relevant fields is expected. Preference will be given to individuals with experience in these areas, in biomedical curriculum development, and in physiology graduate education. Interested individuals should forward their curriculum vitae, a one-page summary of research interests, and the names of three references to: Search Committee Administrator, Department of Physiology, University of Kentucky Medical Center, 800 Rose Street, Room MS-508, Lexington, KY, 40536-0298. The University of Kentucky strongly encourages applications from women, minorities, and people with disabilities. [AA/EOE]

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**Visiting Faculty Position in Exercise Science:** Skidmore College invites applications for a full-time, one-year, sabbatical replacement faculty position in exercise science for the academic year 2007-2008. Qualifications: A PhD is preferred (A BD considered); prior teaching experience is desired. The successful candidate will be able to teach several courses from among the following; introduction to exercise science, exercise testing and prescription, sport and social issues, exercise physiology. Additional responsibilities may include advising senior thesis projects. For full consideration, please send letter of application, curriculum vitae, a brief description of teaching experience, graduate transcripts, and three letters of reference to Dr. Denise L. Smith, Chair, Exercise Science, Skidmore College, 815 N. Broadway, Saratoga Springs, NY 12866. Review of applicants will begin on March 1, 2007 and continue until the position is filled. Skidmore College is committed to being an inclusive campus community and, as an Equal Opportunity Employer, does not discriminate in its hiring or employment practices on the basis of gender, race or ethnicity, national origin, religion, age, disability, family or marital status, or sexual orientation.

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**Tenure-Track Faculty Position –Biology:** The Department of Biology at Houghton College invites applications for a tenure-track position to begin with the fall 2007. Responsibilities include Director of Pre-Medical Education; mentoring and advising students; teaching introductory and upper-level courses in physiology or microbiology and in the individual's area of specialization; and contributing to the broader life of the college. The Department is committed to offering students collaborative research opportunities with faculty. The successful candidate is expected to establish a research program of potential interest to pre-med/pre-vet undergraduates. Qualifications include a doctorate in biological sciences, a passion for teaching undergraduates, a maturing Christian faith, and a potential for academic leadership. More information may be found at http://campus.houghton.edu/orgs/biology/. Affiliated with The Wesleyan Church, Houghton is a residential liberal arts college of 1,200 students. Candidates must be committed to the evangelical Christian mission of the college, affirm a Statement of Faith, and adhere to the moral and lifestyle expectations of our Community Responsibilities document. More information may be found at http://campus.houghton.edu/orgs/human_resources/default.asp. Send a letter of interest, curriculum vitae, and three letters of recommendations to: Dr. James Wolfe, Chair; Department of Biology; Houghton College; One Willard Ave.; Houghton, NY 14744 or to James.Wolfe@Houghton.edu. Consideration of applications will begin immediately and continue until position is filled.

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**Associate Professor in Physiology:** Department of Physiology, School of Medical Sciences, Faculty of Medical and Health Sciences, Auckland. Vacancy Number: A096-07F. The Department of Physiology in the School of Medical Sciences is seeking to appoint an Associate Professor who can make a significant contribution to the Department's strong academic and research programmes in neuroscience, and/or integrative physiology. The successful applicant will be expected to develop a strong internationally competitive research team capable of attracting external funding and supporting the training of postgraduate students. While all areas of research will be considered, preference will be given to candidates who can demonstrate clear potential collaborative links to other groups within the Department, school and wider university. In addition, there will be a requirement to teach undergraduate biomedical science and medical students. The School of Medical Sciences in the Faculty of Medical and Health Sciences combines the preclinical academic medical disciplines of physiology, anatomy, radiology, pharmacology, molecular medicine, immunology, pathology, basic and medical genetics, microbiology, nutrition and audiology. There are a number of strong research groupings within the school including but not limited to cell and tissue biology, biomedical and medical imaging, neurobiology and neuroscience, cardiovascular biology, clinical pharmacology, immunology, cancer biology and drug development. The University of Auckland, Faculty of Medical and Health Sciences, presently has over 400 Faculty members and over 400 clinical teachers. It is adjacent to Auckland Hospital (New Zealand's largest tertiary medical centre), and 1 km from the main campus of the University. The Faculty offers a range of admission options for students into the following undergraduate programmes: Certificate in Health Science, MBChB (Medicine), Bachelor of Health Science, Bachelor of Science (Biomedical Science), Bachelor of Nursing and Bachelor of Pharmacy. In addition to these programmes, the Faculty has a wide range of postgraduate programmes and internationally renowned research activities. The Faculty currently receives over $30 million in external research grants annually. Auckland is a cosmopolitan city with a population of 1.25 million people. The city is located on a North Island isthmus, which separates the Tasman Sea and the Pacific Ocean. It has a warm temperate climate and the city boasts a number of beaches and large recreational parks. Auckland is within a few hours drive of the major recreational areas of Lake Taupo, the Coromandel Peninsula, and the Bay of Islands. New Zealand is world renowned for the diversity of its scenery; with beaches, temperate rain

forests, volcanoes, fjords and spectacular mountain ranges providing all year round winter and summer sport and recreational opportunities. For further information and to apply online please visit http://www.vacancies.auckland.ac.nz or alternatively call 09-373 7599 ext 83000. Please quote the vacancy number. Applications close 20 April 2007. The University has an equal opportunities policy and welcomes applications from all qualified persons.

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**Assistant/Associate Professor:** The Division of Pharmacology and Toxicology in the School of Pharmacy at the University of Missouri-Kansas City invites applications for a 12-month, tenured or tenure-track position at the Assistant/Associate Professor level. Applicants should possess a PhD, Pharm.D or MD in pharmacology, neuroscience, toxicology, or a related discipline. Preference will be accorded to applicants with interdisciplinary research experience involving neuroscience, pharmacogenomics, substance abuse or translational research; outstanding candidates from other relevant areas are also strongly encouraged to apply. The successful applicant at the Associate Professor level is expected to have a vigorous, well-established and externally funded research program; and to provide instruction in the Doctor of Pharmacy professional program and dental pharmacology program. The position includes excellent compensation, startup package, and comprehensive benefits. Application review will begin immediately, and will continue until the position is filled. UMKC is a comprehensive research university exemplifying the values of education first, innovation, accountability, diversity and collaboration. More about UMKC is at www.umkc.edu, or http://pharmacy.umkc.edu/. Applicants should electronically submit a cover letter and curriculum vitae with research plan, and arrange to have letters from three professional references emailed to: Anil Kumar, PhD, Chair, Search Committee, Division of Pharmacology and Toxicology, University of Missouri-Kansas City, 2411 Holmes Street, Kansas City, MO 64110-2741; phone: 816-235-2415; Email: currycl@umkc.edu. [AA/EOE]

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**Assistant/Associate Professor:** The Department of Physical Education at the United States Military Academy is seeking an Assistant/Associate Professor In Exercise Physiology. Duties include teaching in the proposed exercise science major, conducting research in the Center for Physical Development Excellence, and supervising cadet research. An earned PhD degree in exercise physiology is required: postdoctoral training is preferred. Expertise and research must emphasize integrative physiology, neuromuscular and/or endocrine aspects of human exercise and physical training. This is a full-time 12-month appointment in the accepted service beginning on 1 July 2007 for a minimum of three academic years: the appointment may be extended thereafter. For additional information contact Dr. William Brechue, pw3847@usma.edu, 845-938-3950. Applications should be postmarked by 15 April. Application materials must include: let-

**Hank Gardner and Marilyn Fiske Chair of Physiology**
**University of Wyoming**

## FACULTY POSITION

The Department of Zoology and Physiology at the University of Wyoming invites applications for a full-time, nine-month, tenured FACULTY POSITION at a senior level, starting 2008. We are seeking a biomedical physiologist who is conducting innovative research, and who will be able to complement and add to existing physiology research strengths (cell physiology, comparative physiology, neuroscience) in the department and university (cardiovascular physiology). The successful candidate will have a Ph.D., an externally funded research program, and be expected to teach in the department's physiology program which prepares students for further training in physiology and the health sciences. Start up and support for the chair is available. The department also has active research faculty in animal ecology and wildlife/fisheries biology. Outstanding microscopy and macromolecular facilities, an animal holding facility, the Nucleic Acid Exploration Facility, and the Red Buttes Environmental Research Laboratory are available.

Interested applicants should send a curriculum vitae, a statement of research and teaching interests, three publications that represent their best work, and the names of three referees to: Gardner Physiology Chair Search Committee, Department of Zoology and Physiology, Dept. 3166, 1000 E. University Avenue, Laramie, WY 82071. Fax: 307-766-5625. For further information by email: zprequest@uwyo.edu or by Website: http://uwyo.edu/Zoology. Applications should be submitted by June 30th 2007. The University of Wyoming is a Carnegie Foundation Research/Doctoral Extensive Institution, and is an AA/EEO employer.

ter of interest, curriculum vitae, three current references, academic transcript from highest degree, and DD214, if claiming veteran's preference. United States Military Academy, Civilian Personnel Office, Bldg. 626, Attn: Dr. William Brechue/DPE, West Point, New York 10996-1995. The United States Military Academy is an Equal Opportunity, Affirmative Action Employer. Women and minorities are encouraged to apply.

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**Endowed Chair for Laboratory Research:** The Cleveland Clinic, Division of Anesthesiology, Critical Care Medicine and Comprehensive Pain Management is seeking a qualified individual to serve as Director of the Center for Anesthesiology Research. A doctoral degree (MD, PhD, or equivalent), qualifications for appointment as full professor and a proven track record of cellular and molecular mechanisms of cardiac, vascular, endothelial and sensory neuron (pain) function, although expertise in other research areas would be acceptable. Start-up package and compensation are highly competitive. The Center occupies new, state-of-the-art research space. Many collaborative opportunities are available through the Lerner Research Institute. Qualified applicants should send a CV and research plan to: Michael Roizen, MD, Chairman, Division of Anesthesiology, Critical Care Medicine and Comprehensive Pain Management, E30, Cleveland Clinic, 9500 Euclid Avenue, Cleveland, OH 44195; Email: roizenm@ccf.org.

## Research Positions

**Scientist III, Contract:** Bioastronautics, MEI Technologies, Inc., Location: Houston, TX, Reference: WY06167. Essential Qualifications**:** Must have US Citizenship; MS with 10 years experience, or PhD with six years experience in human physiology or closely allied field and several years of experience in human physiology research; Previous work experience should include: research experience in life sciences; development, design, and conduct of human research protocols; preparation of proposals and manuscripts; and analysis of physiological data; Superior written and oral communication skills are required, as is computer literacy, the ability to work independently and direct the work of others; the incumbent's abilities and area of technical skills must include the following: understanding of research design and methodology, ability to translate study results into operational recommendations, familiarity with statistical methods, advanced knowledge of cardiovascular/ cardiopulmonary physiology, and scientific writing ability. Responsibilities: Provide research and technical support for NASA-sponsored flight and ground-based experiments conducted by the Cardiovascular Laboratory. The Cardiovascular Laboratory is a component of the Human Adaptation and Countermeasures Division (HACD) and is responsible for the performance of biomedical research focused on *1*) understanding the normal human response to space flight, and *2*) developing, testing, and delivering countermeasures to those untoward responses that may affect crew health, safety, and/or performance during or after space flight missions. Carry out development and testing of scientific programs on systems, components and materials; develop alternative solutions to existing problems; evaluate projects and make recommendations based on sound scientific principles; prepare cost and schedule estimates and technical documents on proposed projects in assigned area; demonstrate creative ability through patent disclosures, problem solving, scientific reports or technical papers and articles; plan, schedule, conduct or coordinate detailed phases of work; conduct research assignments requiring the determination and evaluation of alternative procedures and the sequence of performing them; perform complex, exacting or unusual analytical assignments requiring specialized knowledge of techniques; participate in data collection and operate biomedical instrumentation during testing of human research subjects; collate, analyze, and interpret experimental data; undertake travel, as required, to support ground-based and flight experiments, and crew training; participate in the development of research proposals for space flight and ground-based studies; prepare scientific manuscripts and technical reports; assist in evaluation of research equipment for safety and performance, and contact vendors for product information; maintain integrity, security, and retrieval efficiency of archived data; serve as a normative subject for Cardiovascular Laboratory experiments, on a volunteer basis, with the approval of the Technical Lead; conform and support all NASA , JSC, & MEI safety requirements and procedures; may require other duties as assigned. Email resumes to: resumes@meitechinc.com;: http://www.meitechinc.com.

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**Research Scientists:** John B. Pierce Laboratory/Yale University School Of Medicine, Metabolism/Environmental Physiology. The John B. Pierce Laboratory, an endowed research institute affiliated with Yale University, seeks to expand its research program in body energy balance by adding two outstanding scientists with active research programs in metabolism and/or environmental physiology. The Laboratory takes a systems approach to physiology, integrating physiology with molecular biology, biochemistry, neuroscience, behavior, and epidemiology. Programmatic interests include, but are not limited to, thermoregulatory, metabolic, and cardiovascular responses by humans and/or animals to environmental stimuli. Candidates should show evidence of ability to obtain external funding. Rank of appointment is open. Joint appointments are anticipated in the Department of Epidemiology and Public Health, Yale University School of Medicine. The Laboratory offers competitive salary, benefits, and start-up, as well as an outstanding work environment. Applicants should submit hard and electronic copies of CV, description of research interests, set of representative publications, and names of at least three references to: Metabolism/Environmental Physiology Search, The John B. Pierce Laboratory, Inc., 290 Congress Avenue,New Haven, CT 06519; email: metsearch@jbpierce.org. Review of applications will begin on March 1, 2007, and continue until the positions are filled; http://www.jbpierce.org. [EOE/AA] ❖

2007 AMERICAN PHYSIOLOGICAL SOCIETY CONFERENCE

# SEX STEROIDS AND GENDER IN CARDIOVASCULAR-RENAL PHYSIOLOGY AND PATHOPHYSIOLOGY

## AUGUST 9-12, 2007, AUSTIN, TEXAS

### ORGANIZING COMMITTEE:

*Jane F. Reckelhoff, Ph.D. (Chair)*
University of Mississippi Medical Center

*Joey P. Granger, Ph.D. (Vice-chair)*
University of Mississippi Medical Center

*Kathryn Sandberg, Ph.D.*
Georgetown University Medical Center

*Carmen Hinojosa-Laborde, Ph.D.*
University of Texas Health Science Center

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Texas A and M University College of Veterinary Medicine

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University of Alabama at Birmingham

*Anna F. Dominiczak, M.D.*
University of Glasgow, Western Infirmary

## PRELIMINARY PROGRAM

SEX STEROIDS IN CLINICAL AND EPIDEMIOLOGICAL STUDIES
*Jane F. Reckelhoff (Chair)*

UPDATE ON SEX STEROID RECEPTORS AND CARDIOVASCULAR DISEASES
*Pascale Lane (Chair)*

SEX STEROIDS AND VASCULAR FUNCTION
*John Stallone (Chair)*

SEX STEROIDS AND METABOLIC SYNDROME
*Carmen Hinojosa-Laborde (Chair)*

SEX STEROIDS, THE RENIN-ANGIOTENSIN SYSTEM AND HYPERTENSION
*Kathryn Sandberg (Chair)*

SEX STEROIDS AND TARGET ORGAN INJURY
*David Pollock (Chair)*

SEX STEROIDS, PREGNANCY, PRE-ECLAMPSIA, AND FETAL PROGRAMMING
*Barbara Alexander (Chair)*

**DEADLINES:**
**Advance Registration: *June 11, 2007***

FOR MORE INFORMATION, CONTACT: The American Physiological Society
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## Essays in Biochemistry Volume 42 The Biochemical Basis of the Health Effects of Exercise

A Wagenmakers, Birmingham, UK: Portland Press, 2006, £21.95.
**New ISBN** 9781855781597

The exercise physiology field often suffers from a scientific reputation that it is inferior to reductionism; the likely misperception is the belief that exercise physiologists study only sports events. However, the book shows that a portion of exercise physiology is solid science. Any scientist interested in bench to bedside, translational medicine, molecules to patients, or integrative physiology will find no better example of these interdisciplinary efforts than the content about exercise in this book. Indeed, I have purchased a copy for my lab.

Some of the latest, in-depth knowledge of the physiological, biochemical, cellular, and molecular mechanisms by which exercise improves health is presented. The subject matter of the book is timely given that the web sites of the American Heart Association and the American Diabetes Association now list physical inactivity as risk factors for cardiovascular disease and type 2 diabetes, respectively, and that the terms "epidemic" and "pandemic" are used to describe the diseases. The back cover claims that each essay provides clear mechanistic insights into the multitude of enzymes, signaling pathways, tissues, and bodily functions that benefit from relatively modest increases in daily physical activity. The 14 essays in the book match the claims. I found those essays that I read very up-to-date. The depth and breath of the information presented is great and the reader will be challenged by the remarkable amount of molecular, cellular, physiological, and health benefits integrated by exercise. Essays average 11 pages in length so the reader can select an essay and be done in short order if their discipline is less broad than exercise, which covers all organ systems (although not all are covered in the book).

An example of the style of each essay is illustrated by the titles of subtopics in the first essay ("Signalling mechanisms in skeletal muscle, role in substrate selection and muscle adaptation"). The essay begins with an introductory background paragraph on the sources of energy supplying the 100-fold increase in ATP usage in exercising muscle and indicating that some of the molecules in the metabolic pathways form the basis for metabolic adaptations to exercise. Within the first essay, exercise is divided into the subtopics of: integration of metabolism, signaling pathways, calcium-dependent signaling, AMP-activated protein kinase, MAPKs, PKB/Akt, and adrenergic signaling. Remaining chapters follow a similar subtopic format.

Each essay is co-authored by a team of 44 co-authors from different institutions. They represent a cross-section of international experts with complimentary expertise in human physiology, biochemistry, and molecular biology. The editor of the book, Anton J.M. Wagenmakers, is a Professor of Exercise Biochemistry at the University of Birmingham, UK. His main scientific interests are the therapeutic effect of exercise and lifestyle changes on metabolism and cardiovascular physiology in chronic diseases.

Some of the essays can be grouped into themes. The various themes are the exercise/physical inactivity mechanisms that operate in skeletal muscle (Chapters 1-4 for endurance, i.e., aerobic, activities and Chapters 5-6 for resistance, i.e., strength, training); the metabolic interaction between muscle, liver, and adipose tissue (Chapter 7); the effects of cytokines and inflammation (Chapter 8); the mechanisms that exist in the endothelium of the vascular wall (Chapters 9-12); polymorphisms predisposing individuals to chronic diseases vary adaptive responses to physical activity (Chapter 13); and Chapter 14 which integrates the metabolic effects in skeletal muscle and vasculature to produce health in physically active individuals. The bullet's summaries at the end of each essay are excellent, allowing selection of essays of interest. The 14 essays are the exercise topics of: signaling mechanisms in muscle adaptation, mitochondrial biogenesis, mechanisms of muscle insulin sensitivity, lipid metabolism, resistance exercise and the control of muscle mass, resistance training and insulin sensitivity in the elderly, fatty acid metabolism, anti-inflammatory actions, vascular nitric oxide, capillary blood flow, vascular function in obese Zucker rats, microvascular dysfunction, physical activity interactions with genes, and integration of the metabolic and cardiovascular during exercise.

The editor indicates that the book is primarily for final-year undergraduate students and postdoctorates and their teachers in biological and medical sciences, which I concur especially for those whose future plans are a career in exercise research. I agree with the editor's recommendation that any professional who is researching exercise mechanisms would benefit from this book. I do not think, as recommended by the editor, that many medical doctors, health professionals, dieticians, and policymakers in public health would use this book because the depth of science, although they would greatly benefit from the book's knowledge. To me, the book is a source of comprehensive essays on the topics presented and will serve as a reference source for research and teaching. In sum then, I strongly recommend this book to those using exercise in their research, whether their primary discipline is exercise or they are using exercise as a tool for the first time (many first using exercise are unacquainted with the sophistication of exercise concepts and thus make major errors in the interpretation of their sophisticated gene manipulation experiments). The book provides a wealth of mechanisms to teachers of advanced courses in exercise, and to physiology and biochemistry faculty using exercise as examples of metabolism in their lectures. ❖

*Frank Booth*
*University of Missouri*

## The Integrative Action of the Autonomic Nervous System: Neurobiology of Homeostasis

Wilfrid Jänig, Cambridge, UK: Cambridge University Press, 2006, 610 pp., illus., index, $170.00.
ISBN: 0-521-84518-1

Ten years have elapsed since William Blessing published his treatise on *The Brainstem and Bodily Homeostasis* (New York, Oxford Univ. Press, 1997). Wilfrid Jänig's new book is a worthy successor to Blessing's volume. Although Jänig deals in most detail with the organization and control of peripheral autonomic circuits, the coordination of autonomic, respiratory and somatomotor control systems leading to adaptive responses of the organism to changes in the environment is also a major theme. The coverage is encyclopedic in scope, yet the style of presentation is such so that the book can be used as a source for courses at both introductory and advanced graduate levels. Students new to the subject will appreciate the copious number of informative schematics, summary tables and lists of conclusions used to emphasize major themes. The notes placed at the end of each chapter serve as an excellent guide to further study by advanced graduate students and investigators with special interests in the subject matter. The reference section is extensive and, for the most part, up to date.

In the 11 chapters comprising the text, Jänig demonstrates a deep familiarity with such far ranging subjects as the neurochemical and functional characteristics of different groups of peripheral autonomic neurons, synaptic and neuroeffector transmission in autonomic circuits, and the control and coordination of autonomic, respiratory and somatomotor functions by spinal, brainstem and forebrain circuits. There are also excellent chapters on visceral afferent nerves and the enteric nervous system.

The major themes presented in the text appear in the following order. First, peripheral sympathetic and parasympathetic neurons are targeting specific. Those with different targets can be distinguished from each other on the basis of their ongoing discharge patterns, responses to activation of particular sets of visceral and somatic afferent nerves, and the profile of putative peptide and non-peptide transmitters contained intracellularly. Second, for the most part, the ongoing activity of preganglionic neurons is determined by their central inputs. Since the discharge patterns of groups of peripheral autonomic neurons with different targets can be dramatically different (rhythmic versus nonrhythmic, cardiac-and/or respiratory-related or not), it follows that target specific peripheral autonomic pathways are connected to distinct sets of central circuits which under some circumstances act independently of each other. Third, the elements comprising spinal sympathetic reflex arcs serve as the building blocks for stereotypical and highly differentiated patterns of spinal sympathetic outflow that are used to support particular behavioral states. Jänig considers these patterns to be hard-wired (preprogrammed) into spinal circuits and selectively engaged by activation of their point-to-point connections with peripheral afferent and supraspinal inputs. Fourth, coordination and integration of the autonomic, respiratory and somatomotor components of behaviors such as "fight or flight" is accomplished by forebrain-induced engagement of preprogrammed, hired-wired connections among the brainstem circuits controlling these functions.

If the book has a weakness, it is the didactic mode of presentation coupled with the strong opinions rendered by the author. On certain important topics, Jänig pays little attention to views expressed by others that differ from his own. Such subjects include the origin and mechanisms responsible for resting sympathetic nerve discharge, the role of rhythmic activity generated in the brainstem in coordinating the discharges of sympathetic nerves with different targets, and the multifunctional capabilities of systems of dynamically coupled brainstem oscillators leading to the formulation of highly differentiated patterns of spinal sympathetic best suited to one or another behavioral state. Despite this criticism, my overall view of Jänig's book is highly favorable. I am confident that the detailed and introspective presentation provided will stand as an important reference source for years to come. ❖

*Gerard L. Gebber*
*Michigan State University*

## APS Member Joseph Kemnitz Receives Knox Award

The Wisconsin Association for Biomedical Research and Education (WABRE) presented Joe Kemnitz, director of the Wisconsin National Primate Research Center, with the Knox Courage Award January 19 at the Best Western Inntowner Hotel in Madison, WI. The award goes annually to a person in the state whom association members believe has consistently and proudly stood up for promoting the need for critical, humane biomedical research to the media, educators and the public.

A large turnout of Joe's family, friends and colleagues joined WABRE directors and board members to present the surprise honor. ❖

**Joseph Kemnitz receives the Knox award from Hannah Carey, Professor of Comparative Bioscience in the UW-School of Veterinary Medicine, and President of WABRE.**

## Terrie Williams Honored as Scientist-Explorer

APS Member and University of California researcher Terrie Williams is one of five women to win the *Women of Discovery* award from Wings WorldQuest this year. As *The Physiologist* went to press, actress Uma Thurman was slated to present the awards on March 1 to Jane Goodall, Erin Petit, Constanza Ceruti, Grace Gobbo and Williams.

Williams, a physiologist and professor at UC Santa Cruz, is the author of *Hunter's Breath,* a book about her research on the Weddell seal in Antarctica. She was named one of the top 50 women scientists in 2002 by *Discover* magazine. Williams presented the plenary lecture "Survival physiology: a reassessment of why big, fierce animals are rare," at last year's Comparative Physiology conference. She received the Sea Award from Wings.

**Terrie Williams**

"Marine biologist Terrie Williams' research observations of Antarctica's Weddell seals has led to breakthroughs in the understanding of the seals' lung capacity and ability to conserve energy," according to information from Wings. "More importantly, these discoveries have implications that global warming may ultimately upset the delicate balance of seal populations and their prey."

Wings WorldQuest is a New York-based nonprofit that seeks to promote scientific exploration, celebrate extraordinary women explorers and inspire all women to explore their universe. Among other activities, Wings sponsors field expeditions, scientific research and related publications. The awards ceremony was in New York. ❖

## M. Ian Phillips Named Norris Professor at Keck Institute

**M. Ian Phillips,** a professor at the Keck Graduate Institute in Claremont California, has been named the Norris Professor of Applied Life Sciences at the institute. His research focuses on using stem cells to address chronic diseases including hypertension and failing hearts. He recently pioneered the Vigilant Vectors system that can regulate stem cell homing factors to repair and regenerate cells in damaged hearts and blood vessels.

Khalil N. Bitar, a Research Professor has also added American Gastroenterology Association Fellow to his title. Bitar is affiliated with the Department of Pediatric Gastroenterology, University of Michigan Medical School, Ann Arbor.

Stephanie M. Busque is currently a student at the Institute of Physiology, University of Zurich, Switzerland. Formerly, Busque was with the Department of Surgery and Gastroenterology, Yale University School of Medicine, New Haven, CT.

Yang-Ling Chou currently is a Postdoctoral Fellow, Department of Allergy and Clinical Immunology, Johns Hopkins University, Baltimore, MD. Formerly, Chou was a Postdoctoral Associate, Department of Physiological Sciences, University of Florida, Gainesville.

Charles W. Cortes, a Postdoctoral Fellow, has joined the Center of Translational Research on Aging & Longevity, University of Arkansas for Medical Sciences, Little Rock. Cortes was formerly a Postdoctoral Fellow, Depart-ment Metabolism Unit, University of Texas Medical Branch, Galveston.

Nicholas A. Delamere, Professor and Department Head, recently affiliated with the Department of Physiology,

University of Arizona, Tucson. Delamere was previously Professor, Department of Ophthalmology and Pharmacology, University of Louisville Medical School, KY.

M. Faadiel Essop has joined the Department of Physiological Sciences as a Professor, University of Stellenbosch, South Africa. Essop was previously affiliated as a Senior Lecturer with the Department of Medicine, Hatter Institute Cardiovascular Research, University of Cape Town Observatory, South Africa.

Mohammed Z. Haque, a Postdoctoral Scholar, has associated with the Department of Physiology, Wayne State University, Detroit, MI. Prior to his new assignment, Haque was a Postdoctoral Scholar, Department of Cardiothoracic Surgery, University of Kentucky, Lexington.

Trent Alan Hargens has affiliated with Ball State University as an Instructor of Physical Education, Human Performance Lab, Muncie, IN. Hargens was formerly a student with the Department of Human Nutrition, Foods and Exercise, Virginia Polytechnic Institute and State University, Blacksburg, VA.

Christopher L. Kaufman is presently associated with St. Paul Heart Clinic as a Scientist, St. Paul, MN. Formerly, Kaufman was a Student at the University of Minnesota, Twin Cities Campus, School of Kinesiology, Minneapolis.

Jonathan D. Kibble has assumed the position of Associate Professor, Memorial University of Newfoundland, Faculty of Medicine, Health Sciences Centre, St. John's, Canada. Kibble was previously affiliated with St. Georgia's University School of Medicine, Grenada, West Indies, as Chair, Department of Physiology and Neuroscience.

Jeong-su Kim, an Assistant Professor, has joined the Department of Nutrition, Food, and Exercise Science, Florida State University, Tallahassee. Formerly, Kim was a Postdoctoral Fellow, Department of Physiology and Biophysics, University of Alabama, Birmingham.

Scott Edward Lankford, an Assistant Professor, has affiliated with the Department of Biology, University of Central Missouri, Warrensburg. Lankford was formerly a Research Physiologist, National Center for Cool and Cold Water Aquaculture, United States Department of Agriculture, Agricultural Research Service, Kearneysville, WV.

Dwayne A. Lavoie has joined GlaxoSmithKline, King of Prussia, PA, as a Principal Scientist. Lavoie previously was an Associate Research Scientist with Bristol-Myers Squibb Co., East Syracuse, NY.

Henry C. Lin, Chief Gastro Section and Professor of Medicine, has affiliated with the New Mexico VA Health Care System, University of New Mexico, Albuquerque. Lin, as an Associate Professor, was formerly with the Keck School of Medicine, University of Southern California, Los Angeles.

Manuel Martinez–Maldonado has joined the University of Louisville, Kentucky, as Executive Vice President for Research. Martinez-Maldonado was formerly President and Dean of the Ponce School of Medicine, Ponce, Puerto Rico.

Ali Mobasheri, as an Associate Professor, Mobasheri joined the School of Veterinary Medicine & Science, University of Nottingham, Sutton Bonington, Leichestershire, UK. Mobasheri was previously a Senior Lecturer, Department of Veterinary Preclinical Science, University of Liverpool, Faculty of Veterinary Science, Liverpool, England, UK.

Rolando Enrique Rumbaut is currently an Associate Professor, Department of Medicine, Pulmonary and Critical Care Institution, Baylor College of Medicine, Houston, TX. Rumbaut was previously an Assistant Professor, Department of Medicine, Pulmonary and Critical Care Institution, Baylor College of Medicine, Houston, TX.

Jena J. Steinle, an Assistant Professor, has moved to the Department of Ophthalmology, University of Tennessee Health Science Center, Memphis. Steinle was formerly associated with the Department of Physiology, Southern Illinois University College of Medicine, Life Science III, Carbondale, IL.

Robert S. Turner recently affiliated as an Associate Professor with the Department of Neurobiology, University of Pittsburgh, PA. Turner was formerly an Assistant Professor, Department of Neurosurgery, University of California, San Francisco, CA.

Alice Renee Villalobos is presently affiliated with Texas A&M University as an Assistant Professor, Department of Nutrition & Food Science, College Station, TX. Villalobos was formerly an Assistant Professor with the Department of Environmental Medicine, University of Rochester, NY.

Donald E. Wesson is currently the Vice Dean, Texas A&M College of Medicine, Chief Academic Officer, Scott & White, Temple, TX. Wesson was formerly Assistant Professor, Department of Internal Medicine, Chief of Nephrology, Texas Tech University Health Science Center, Lubbock, TX.

Tadataka Yamada is presently President, Bill & Melinda Gates Foundation, Department of Global Health, Seattle, WA. Prior to his new position, Yamada was Chairman, Research & Development, GlaxoSmith-Kline Research & Development, King of Prussia, PA. ❖

# The Wine Wizard

**Peter Wagner**

**Peter Wagner**

For this column, no good value white wines surfaced in my wine world, but remember, one can always count on Geyser Peak Sauvignon Blanc and Meridian Chardonnay, whatever the currently available vintages. They are both less than $10, in some shops around $7.

On the other hand, several good reds have appeared.

1. Grove Street 2004 Cabernet ($9). Aroma of blueberry, blackberry, hint of green peppers, and vanilla oak. It is a surprisingly rich and well-structured, medium-bodied wine with attractive chalky tannin and just right acid to back up the forward, ripe blueberry/blackberry fruit flavors. It has excellent balance and length and while ready now it could be kept for the next one-two years if desired. Great value, worth twice the cost.

2. Trentadue 2004 Old Patch Red ($9). Mainly Zinfandel, it has enough petite sirah and carignane to give it complexity and depth. Very bright nose of blueberries, spice and vanilla, it is a medium bodied wine with soft tannin and good acid. There is a touch of cashew and vanilla to go along with the intense dark berry fruit. This is an excellent BBQ and/or party wine, but should be drunk within the next year. Dangerously easy to drink.

3. Macchia 2005 Barbera (Lodi, CA) ($14). This will raise your eyebrows. What an unexpectedly tasty wine. Rich dark plum and berry aromas with sweet vanilla oak in a very harmonious balance. The palate is concentrated but very smooth with decent viscosity. Quite a big wine, it is very well balanced with the dark fruit leading the vanilla. There are no rough edges, undue acidity or tannic bite. I do not think it should be cellared too long, but this will enhance any dinner party at a good price. Way better than your average BBQ wine. And, it may be a new experience for you in terms of grape variety.

4. Estancia Meritage 2004 ($20). This Bordeaux blend is one of very few wines I buy for myself year after year, which in itself says something. It is good right now, but not as forward as in previous vintages. I have a hunch that after one-two years in the cellar it will be much better. It has a boysenberry and vanilla nose. The palate is similar with a touch of attractive herbal green olive. It has richness, softness and good acid with medium tannin, and good length on the palate. Thus, with a basically sound structure and decent fruit, I look forward to this wine in about a year. ❖

**CALL FOR NOMINATIONS**

**for the Editorship of the**

***American Journal of Physiology-Cell Physiology***

Nominations are invited for the Editorship of the *American Journal of Physiology-Cell Physiology* to succeed D. Brown, who will complete his term as Editor on June 30, 2008. The Publications Committee plans to interview candidates in the Fall of 2007.

Applications should be received before **August 15, 2007.**

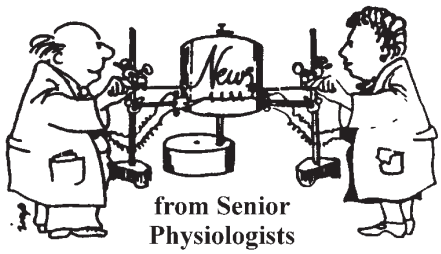
Nominations, accompanied by a curriculum vitae, should be sent to the Chair of the Publications Committee:

Kim E. Barrett, Ph.D.
APS
9650 Rockville Pike
Bethesda, MD 20814-3991

## Letter to Julio Cruz

**Eugene M. Renkin** writes: "Many thanks for your greeting on my 80th birthday. Your greeting arrived in proper time, but, alas, I procrastinated for three months before facing up to replying and providing the requested update on the progress of my retirement. In the interim, my wife, Libby and I have enjoyed three birthday parties: the first, on my birthday, a private celebration at home, the second at my former Department's annual Holiday party, with a surprise cake, and the third over the New Year in Denver with our children and grandchildren.

"I looked up my 70th birthday letter in the archive of *The Physiologist* (Vol. 40:1). It appears that I followed my predictions of that time fairly closely. I stopped contributing to Medical School teaching five years ago, and gave up refereeing manuscripts for APS journals two years ago (I didn't think it fair to review MSS I couldn't fully understand). I still keep in touch with my old department, and enjoy following the development of the young physiologists who




have been recruited to its faculty.

"I was more successful in widening my knowledge of areas of science outside physiology, physics, geology and biology, mostly by reading; but in the case of invertebrate biology also by direct microscopic observation of populations of plants and animals in ponds and puddles. Alas, the vow I made never to serve on another committee proved impossible to maintain. My term on the Senior Physiologists Committee doesn't count – besides, I enjoyed receiving the letters from my co-retirees. But I agreed to serve a term on my University's Emeriti Committee, and I have been continually on one committee or another of our synagogue and of the retirement community which my wife and I joined seven years ago.

"Libby and I still enjoy listening to music at home and going to concerts, plays, operas, and an occasional movie. We greatly enjoy traveling to see our children and relatives widely spread around the US (and sometimes abroad), and we look forward to doing lots of these things in the 10 years before our next report."

## Letter to Harvey Sparks

**Allan Walker** writes: "Currently, I am functioning in the same capacity that I have been for the last 25 years at Harvard Medical School. I have a combined responsibility of teaching medical students, residents and postdoctoral fellows, occasionally seeing complex patients, running a large mucosal immunology laboratory with extensive funding from NIH. As long as my health holds out and I continue to obtain funding I plan to continue to function in this same capacity." ❖

## Bowditch Award Lecture

The Bowditch Lectureship is awarded to a regular member, under 42 years of age, for original and outstanding accomplishments in the field of physiology. Selected by the APS President, the recipient presents a lecture at the Experimental Biology meeting, which is considered for publication in the Society journal of their choosing. The recipient receives an honorarium of $2,500, reimbursement of expenses incurred while participating in the Experimental Biology meeting, and a plaque. The membership is invited to submit nominations for the Bowditch Lecturer. A nomination shall be accompanied by a candidate's curriculum vitae and one letter detailing the individual's status, contributions, and potential.

More information on the award and nomination procedures are available at http://www.the-aps.org. Nominations should be sent to: The APS Bowditch Lecture Award, c/o Linda Jean Dresser, 9650 Rockville Pike, Bethesda, MD 20814-3991; or submitted online at http://www.the-aps.org/cgi-bin/Election/Lecture_form.htm.

## Physiology in Perspective
## Walter B. Cannon Memorial Lecture

The Cannon Memorial Lecture, sponsored by the Grass Foundation, honors Walter B. Cannon, President of the Society from 1913-1916, and is presented annually at the spring meeting to an outstanding physiological scientist, domestic or foreign, as selected by the President-Elect with the consent of Council. The recipient presents a lecture on "Physiology in Perspective," addressing Cannon's concepts of "The Wisdom of the Body." The lecture is considered for publication in the Society journal of their choosing. The recipient receives an honorarium of $4,000, a plaque, and reimbursement of expenses incurred in association with delivery of the lecture. The membership is invited to submit nominations for this lecture. A nomination shall be accompanied by a candidate's curriculum vitae and one letter detailing the individual's status and contributions.

More information on the award and nomination procedures are available at http://www.the-aps.org. Nominations should be sent to: The APS Cannon Lecture Award, c/o Linda Jean Dresser, 9650 Rockville Pike, Bethesda, MD 20814-3991; or submitted online at http://www.the-aps.org/cgi-bin/Election/Lecture_form.htm.

*May 1-4*
**Humanizing Model Organisms to Understand Pathogenesis of Human Disease, Hinxton, Cambridge, United Kingdom.** *Information:* Wellcome Trust Conference Centre, Wellcome Trust Genome Campus, Hinxton, Cambridge, CB10 1RQ, UK. Tel.: +44 (0)1223 495110; Fax: +44 (0) 1223 495023; Email p.vandervalk@wtconference.org.uk; Internet: http://www.esf.org/conferences.

*May 9-12*
**First Annual Meeting of the Organization for the Study of Sex Differences, Washington, DC.** *Information:* Email: info@ossdweb.org, Internet: http://www.ossdweb.org.

*May 13-16*
**11th International Conference on Myasthenia Gravis and Related Disorders, Sponsored by The New York Academy of Sciences and the Myasthenia Gravis Foundation of America, Inc., Chicago, IL.** *Information:* Tel.: 212-298-8615; Email: mgconf@nyas.org; Internet: http://www.nyas.org/mgconf.

*May 18-23*
**American Thoracic Society International Conference, San Francisco, CA.** *Information:* Internet: http://www.thoracic.org.; Email: ats2007@thoracic.org.

*May 20-24*
**10th Annual NSTI Nanotech 2007 and BioNano 2007, Santa Clara, CA.** *Information:* Nano Science and Technology Institute, One Kendall Square, PMB 308, Cambridge, MA 02143. Tel.: 925-901-4959; Email: info@nsti.org; Internet: http://www.nsti.org/Nanotech2007/.

*May 21-23*
**TIDES 2007 - Oligonucleotide and Peptide®, Technology and Product Development Conference, Practical Considerations for Progression through Development, Las Vegas, NV.** *Information:* IBC Life Sciences. Tel.: 508-616-5550; Fax: 508-616-5533; Email: taskm@ibcusa.com; Internet: http://www.ibclifesciences.com/TIDES.

*May 21-24*
**12th Annual Human Genome Meeting, Montreal, Canada.** *Information:* HUGO, 144 Harley St, London W1G 7LD, UK. Tel: [44] (20) 7935 8085; Fax: [44] (20) 7935 8341; Email: hugo@hugo-international.org; Internet: http://www.hugo-international.org.

*May 23-25*
**First Annual Meeting of the Canadian Association for Neuroscience, Toronto, Ontario, Canada.** *Information:* Peter Smith, Secretary, CAN-ACN. Email: peter.a.smith@ualberta.ca; Internet: http://www.can-acn.org/Pub/Pub_Front.asp .

*May 30-June 2*
**10th Canadian Society for Pharmaceutical Sciences (CSPS) Annual Meeting; 18th Pharmaceutical & Biomedical Analysis (PBA) Annual Meeting 64th Association of Faculties of Pharmacy of Canada (AFPC) Annual Meeting, Montréal, Québec, Canada.** *Information:* Email: csps@cspscanada.org; Internet: http://www.cspscanada.org/symposium2007/index.htm.

*June 12-15*
**Cellular and Network Functions in the Spinal Cord, Madison, WI.** *Information:* Spinal Cord 2007 Conference, Wisconsin Union Conference Services, 800 Langdon Street, Madison, WI 53706. Tel.: 608-265-9089; Fax: 608-265-8299; Email: spinalcord@union.wisc.edu; Internet: http://www.union.wisc.edu/spinalcord/.

*June 14-16*
**Animal Biotechnology and its Applications to Animal and Human Health, Hinxton, UK.** *Information:* Mrs. Chiara Orefice, European Science Foundation, ESF Conferences Unit, 149 avenue Louise, Box 14, Tour Generali, 15th Floor, 1050 Brussels, Belgium. Tel.: +32 2 533 2020; Fax: +32 2 538 8486; Email: corefice@esf.org; Internet: http://www.esf.org/conferences/07206.

*June 15-16*
**Symposium on Student Centered Learning In Life and Health Sciences, Ontario, Canada.** *Information:* Dr. P.K. Rangachari, Bachelor of Health Sciences (Honours) Program, McMaster University, MDCL-3308, 1200 Main Street West, Hamilton, ON L8N 3Z5. Tel.: (905) 525-9140 Ext. 22526; Fax: (905) 540-3825; Email: chari@mcmaster.ca.

*June 24-28*
**Omics: Assembling Systems Biology, Ascona, Switzerland.** *Information:* Workshop Program. Email: flueck@ana.unibe.ch; Internet: http://www.omics.ch/.

*June 24-29*
**IWPCPS®9 - Ninth International Workshop on Physical Characterization of Pharmaceutical Solids, Boston, MA.** *Information:* Internet: http://www.assainternational.com/workshops/IWPCPS_9/IWPCPS_9.cfm.

*August 6-9*
**IBC's 12th Annual World Congress Drug Discovery and Development of Innovative Therapeutics (DDT), Boston, MA.** *Information:* Internet: http://www.drugdisc.com/section.asp.

*August 12-17*
**2nd Annual Placenta Human Workshop - Laboratory Techniques and Clinical Lectures, Kingston ON, Canada.** *Information:* Placenta Workshop 2007 Co-ordinator, Dept. of Anatomy and Cell Biology, Botterell Hall, Room 863, Queen's University, Kingston ON K7L 3N6. Tel.: 613-533-2853; Fax: 613-533-2566; Email: placenta@post.queensu.ca; Internet: http://post.queensu.ca/~placenta.

*Ausust 15-19*
**8th World Congress for Microcirculation, Milwaukee, WI.** *Information:* Internet: http://www.microcirccongress.org/Home/tabid/71/Default.aspx.

*August 19-22*
**Setting the Stage for the Future: Psychoneuroendocrinology in the 21st Century, Madison, WI.** *Information:* 38th Annual ISPNE Conference. Tel.: 608-263-2281; Fax: 608-265-2565, Email: SheltonS@wisc.edu; Internet: http://www.ispne.org.

# Experimental Biology

## Experimental Biology 2007

Walter C. Randall Lecturer in Biomedical Ethics

**David Prentice**
**Family Research Council**

**"Motives, Ethics, and Responsibility in Research"**

**Sandra L. Titus**
**US Department Health & Human Services, Office of Research Integrity**

**"Research Misconduct: How to Avoid, Prevent, Detect, and Report"**

**Tuesday, May 1, 2:00 pm**
**Room 145 A**
**Washington DC Convention Center**

**SPONSORED BY** The American Physiological Society
For more info about EB 2007, Go To:
**www.the aps.org/meetings/eb07/program.htm**

# MEMBERSHIP APPLICATION FORM

## *The American Physiological Society*

1. Check membership category you are applying for: ❑ Regular ❑ Affiliate ❑ Student
2. Do you currently hold membership in the APS? ❑ Yes ❑ No
3. If you answered yes to above, what is your category of Membership?_____ Year elected?_____
4. Name of Applicant: _____ / _____ / _____
   *Last Name or Family Name* *First Name* *Middle Name*
5. Date of Birth _____ / _____ / _____ Optional: Male ❑ Female ❑
   *Month* *Day* *Year*
6. Institution Name _____ Department _____
   ***(Please do not abbreviate Institution Name)***
7. Institution Street Address _____
8. City/State/Zip/Country _____
9. Home Address ***(Students only)*** _____
10. Work Phone _____ Home Phone _____
11. Fax _____ E-mail _____

12. **EDUCATIONAL STATUS:** ▶ **IMPORTANT for STUDENTS: **If you are enrolled as a student for an advanced degree (Ph.D., M.D., D.V.M.) please include the month and year you expect to receive your degree.**

| ***Dates**** | Degree | Institution | Major Field | Advisor |
|---|---|---|---|---|

13. **WHAT IS YOUR SECTION AFFILIATION?** Please identify and rank up to three sections to which you desire affiliation. (e.g., 1 = primary affiliation, 2 = secondary affiliation, 3 = tertiary affiliation). **There can be only one "Primary" affiliation.**

| | | |
|---|---|---|
| ___Cardiovascular | ___Endocrinology & Metabolism | ___Renal Physiology |
| ___Cell & Molecular Physiology | ___Environmental & Exercise Physiology | ___Respiration Physiology |
| ___Central Nervous System | ___Gastrointestinal & Liver Physiology | ___Teaching of Physiology |
| ___Comparative & Evolutionary Physiology | ___Neural Control & Autonomic Regulation | ___Water & Electrolyte Homeostasis |

14. **DO YOU WORK IN INDUSTRY?** ❑ YES ❑ NO

15. **SPONSORS** (Sponsors must be Regular APS Members. If you are unable to find sponsors, check the box below, and we will locate them for you.)

**CHECK THIS BOX IF APPLICABLE:** ❑ Please locate sponsors on my behalf.

#1 Sponsor Name _____
Mailing Address _____

Phone _____
Fax _____
E-mail _____
Sponsor Signature* _____

#2 Sponsor Name _____
Mailing Address _____

Phone _____
Fax _____
E-mail _____
Sponsor Signature* _____

**signature indicates that sponsor attests applicant is qualified for membership.*

▶ **Please turn over for more questions...and mailing instructions.**

# Membership Application (Continued...)

**Applicant Last Name** (please print)_____

## 16. OCCUPATIONAL HISTORY [Check if student ❒ ]

**Current Position:**

| Dates | Title | Institution | Department | Supervisor |
|---|---|---|---|---|

**Prior Positions:**

| Dates | Title | Institution | Department | Supervisor |
|---|---|---|---|---|

## 17. LIST YOUR MOST SIGNIFICANT PUBLICATIONS, WITH EMPHASIS ON THE PAST 5 YEARS (Publications should consist of manuscripts in peer-reviewed journals. List them in the same style as sample below.)

**Sample: MacLeod RJ and Hamilton JR**. Volume Regulation initiated by $Na^+$-nutrient contransport in isolated mammalian villus enterocytes. Am J Physiol Gastrointest Liver Physiol 280: G26-G33, 1991.

## 18. DOCTORAL DISSERTATION TITLE (if applicable):

_____

_____

## 19. POSTDOCTORAL RESEARCH TOPIC (if applicable):

_____

_____

## 20. WHICH FACTOR INFLUENCED YOU TO FILL OUT OUR MEMBERSHIP APPLICATION?

❑ Mailer ❑ Meeting (Which meeting?_____) ❑ Colleague ❑ Other_____

**Mail your application to:** Membership Services Department, The American Physiological Society
9650 Rockville Pike, Bethesda, Maryland 20814-3991 (U.S.A.)
***(or fax to 301-634-7241)*** ***(or submit online at:*** *www.the-aps.org/membership/application.htm)*

**Send no money now**—you will receive a dues statement upon approval of membership.
**Approval Deadlines:** Membership applications are considered for approval on a monthly basis.
**Questions? Call: 301-634-7171, Fax: 301-634-7241, E-mail: members@the-aps.org , Web: www.the-aps.org**

**R/ 2005**