



# The Physiologist

## Wayne State University Physiology Celebrates 100 Years

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On June 21, the Wayne State Univ. Department of Physiology celebrated its Centennial. As noted by Jian-Ping (J.-P.) Jin, Professor and Chair, the department “has a proud 100-year history of scientific discoveries: C.L. Schneider’s blood coagulation studies, W. H. Seegers’ thrombin crystals, P. Foa’s discovery of glucagon, M. Barnhart’s contribution to the treatment of sickle cell disease, just to name a few. And new achievements are continuously being made by the present members of our Department...”. J.-P. Jin and colleagues organized a celebration consisting of guest speakers, poster presentations and a reception/dinner at the Detroit Institute of Arts. The celebration provided an opportunity for faculty, students, alumni and friends to commemorate the accomplishments of the past 100 years and to look forward to the possibilities of the next 100 years.

There were approximately 150 people in attendance at the celebration to enjoy presentations from Richard Marljar (1978 alumnus), Univ. of Oklahoma; Joseph Dunbar (1970 alumnus), Wayne State Univ.; Gerald Shulman (1979 alumnus), Yale Univ., and Susan Barman, 85th APS President, Michigan State Univ. Barman presented J.-P. Jin with an APS Proclamation extending the Society’s “congratulations to the Department of Physiology for its contributions to our knowledge of physiology, to the training of students, and for its support of the American Physiological Society as we celebrate its 100 years at the Wayne State University.”

The Department of Physiology was formally established in 1913. Prior to this time, physiology was taught primarily by physicians in the medical

school and teaching hospitals. In 1868, the Detroit medical College was established and in 1879 the Michigan College of Medicine opened its doors. These two medical schools merged in 1885 to become the Detroit College of Medicine. In 1913, with the reorganization of the Medical School, it was then named the Detroit College of Medicine and Surgery. In 1933, the university name was changed to Wayne Univ. In 1956, the Univ. became part of the state university system and was subsequently named Wayne State Univ. while the Medical College became the School of Medicine.

Since its founding, the Department of Physiology has been headed by the following individuals: William F. Koch, Chairman, 1913-1920; Walter L. Mendenhall, Acting Chairman, 1920-1921; Carlin P. Mott, Acting Chairman, 1921-1922; Thomas L. Patterson, Chairman, 1922-1939; Hans O. Haterius, Chairman, 1939-1946; Walter H. Seegers, Chairman, 1946-1980; Piero P. Foa, Acting Chairman, 1980-1981; John W. Phillis, Chairman, 1981-1997; Joseph C. Dunbar, Chairman, 1997-2007; David Lawson, Acting Chairman, 2007-2009; Jian-Ping Jin, Chairman, 2009-present.

In turning 100 years old as a Department, J.-P. Jin declared “we are well-positioned to take on new challenges and capture new opportunities. Celebrating our glorious history and past achievements is also a golden opportunity to strengthen ourselves and prepare for the future. We live in a rapidly changing world and our three main endeavors in the Department—producing physicians with high competence in medicine, conducting biomed-

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ical research to enrich scientific knowledge and improve health, and training future scientists, researchers and medical school instructors—continue to evolve just as rapidly. We play a critical role in the future of science and medicine, and as a physician, a researcher, and an educator, I take my profession in academic medicine with great pride and responsibility. Alongside my outstanding Physiology colleagues in the Department, at the School of Medicine and the University, as well as across the nation and around the globe, I am confident that we will continue to pave the road towards innovation, discovery, and success.”

Learn more about the department and its history by visiting

<http://www.med.wayne.edu/Physiology/Centennial/CentennialPE.htm>.



**Susan M. Barman, 85th President of APS (2012-2013) and Professor of Pharmacology and Toxicology at Michigan State Univ. presents J.-P. Jin with the Proclamation from APS.**



**Douglas R. Yingst, Associate Professor and Graduate Officer, James Rillema, Professor, and J.-P. Jin, Professor and Chair, present recent alumnus Vanesa Ramseyer with one of three student awards for “Outstanding Academic Achievement.”**

**Centennial reception and dinner at the Detroit Institute of Arts.**





## Inclusion of Students with Disabilities in the Lab

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### Students with Disabilities in Science Higher Education

The benefits of diversity to scientific research are, of course, tangible and substantial. This is a fact accepted by NIH, NSF, NASA and other federal

agencies. Unfortunately, the contribution of students with disabilities toward the goal of greater diversity is still a relatively nascent idea. Like other underrepresented groups, students with disabilities had to demand access to higher education. Because of the Rehabilitation Act of 1973 and Americans with Disabilities Act of 1990 (ADA), public and private higher education institutions cannot discriminate against students with disabilities and must provide services to accommodate their educational needs. Some institutions embraced this new reality, others attempted to comply through the least amount of effort, and then some were sued and their examples have become case law. My hope, as faculty researchers, is that we will aspire to the former aim.

Up until now, higher education in science, technology, engineering and mathematics (STEM) has not had too much pressure to accommodate students with disabilities in their curriculum and research labs. Sure the laboratory classroom is accessible to wheelchairs and no science teacher is going to kick out a student who is blind or deaf. But are these students able to use the classroom light microscope by themselves, dissect frogs, mix reagents, determine fruit fly eye colors, and the host of other practical science experiments that are expected of science students? Curricular access, not physical barriers, is now at the forefront of challenges to the inclusion of students with disabilities in STEM.

The demand for change is coming though. No, there is no new legislation that I am aware of mandating greater STEM curricular accessibility standards for students with disabilities. Instead, there is a generation of stu-

dents with disabilities, mainstreamed in regular middle and high school classrooms, who received accommodations, are used to a certain level of universal design in learning environments, and had institutional educational program (IEP) plans that followed their education. This generation is matriculating into higher education expecting these same accommodations. It is a matter of time before they expect graduate education to be as welcoming. How does one navigate these waters?

### Personal Perspectives

As an undergraduate student in a power wheelchair entering engineering at Purdue Univ. in 1990, I was fortunate that the ADA was in force. However, the emphasis was clearly on quickly becoming ADA compliant. There was only one handicap-accessible dormitory room near a bathroom with a roll-in shower at that time and just enough curb cuts for me to make it to my classes, maybe not via the most direct path but possible. There was no public transportation and rarely could I enter through the front entrance of one of Purdue's academic buildings. However, each year there were noticeable improvements (more curb cuts, automatic door openers and ramps) and new buildings had to comply with ADA building standards. Though wonderful and much-needed, lowering these physical barriers is not likely going to significantly impact the number of students with disabilities to consider that lab-based STEM careers are accessible to them. Many students with disabilities, parents, teachers, and faculty researchers can only see the hurdles in science and engineering and not the opportunities.

### The Challenge of STEM Inclusion

The mission of the Institute for Accessible Science (IAS), funded by the NIH Director's Pathfinder Award, is to promote the advancement of college students with disabilities in STEM, assisting them to continue on to graduate or professional schools and eventually careers in STEM. According to the NSF's Report on Women, Minorities, and Persons with Disabilities in Science and Engineering, approximately 15% of

undergraduates with disabilities enrolled in STEM fields of study, which is comparable to their classmates without disabilities. Unfortunately, the proportion of students with disabilities graduating and continuing on to graduate or professional schools in STEM decreased considerably compared with their nondisabled peers. Thus, a significant bottleneck occurs at the numbers of master's students and doctorates with disabilities and consequently, scientists and engineers with disabilities being produced.

There are many different programs that we at the IAS and others have run to assist students with disabilities in pursuing graduate education in STEM. We have focused on helping those in the lab-based life sciences, which require considerable "hands-on" learning experiences. As a new graduate student in neuroscience my major concern was how I was going to perform research lab tasks. As an undergraduate in lab courses, I usually observed or recorded data while the other students in my lab group or my lab assistant performed the practical experimentation. As a grad student, I wanted to work as independently as possible. Though I might be able to hire a lab assistant or work with another student, I realized that without practical experiences I was not getting the nuances of the subject matter or fully

*Dr. Brad Duerstock is an associate professor of engineering practice in the Weldon School of Biomedical Engineering and School of Industrial Engineering at Purdue Univ. He is the Director of the Institute for Accessible Science (IAS), which promotes greater inclusion of persons with disabilities in science and engineering. Dr. Duerstock is a member of the Center for Paralysis Research (CPR) in the College of Veterinary Medicine where he holds a courtesy appointment. He received his bachelor's degree in biomedical engineering and doctorate in neurobiology from Purdue. His research interests focus on restoring function to individuals with disabilities through the development of assistive technologies and conducting basic and applied research in central nervous system trauma. In 2010, he received the NIH Director's Pathfinder Award.*

understanding technical procedures as well as my nondisabled classmates. This affected my grades, and it was quite a struggle the first two years. I doubted whether grad school was possible.

## Right Recipe for Student Success?

Fortunately my graduate advisor, Dr. Richard Borgens, was very patient and willing to work with me to find the right research project within the mission of the lab. As director of the Center for Paralysis Research, he helped me start my graduate career in a large research lab that was both physically and socially accommodating and typically well-funded. In a recent survey of Purdue life sciences and biochemistry faculty, Dr. Susan Mendrysa of the IAS found that senior faculty researchers with actively funded labs were most willing to accept a graduate student with a disability. Factors that presumably played a part in researchers' acceptance were being tenured, a long track record of getting federal grants, and a well-staffed lab with hierarchical training involving postdocs, technicians, and other students. This was the situation where I serendipitously started my graduate studies, which likely played a big part in my success.

Unfortunately, I have met undergraduate and graduate students that were not so lucky. In one instance, being paired with a tenure-track faculty member resulted in that graduate student with a disability being discouraged by not living up to the expectations of the mentor while not having the guidance of knowing what to do to turn things around. Ultimately, the student left the program. The junior faculty researcher likely had no prior experience working with students with disabilities, was ill-equipped in accommodating this student or where to find help, and was under typical tenure-track pressure to produce results quickly. In fact, most of the survey respondents stated they were favorable to the idea of students with disabilities joining their labs, but only if they received assistance. This is a reasonable request since students with disabilities will likely need accommodations of some sort, including a longer time to graduate, assistive technologies (AT) to perform lab tasks, or lab assistant support.

## Accommodating a Student with a Disability in a Lab

There is, of course, no single solution for determining what mix of accommo-

dations is necessary for a student with a disability. Even with students without disabilities, some need intensive one-on-one mentoring and others work fine on their own with little oversight. I have found that having prior research lab experiences, necessary physical accommodations, and student guidance and support (or the 3 E's - Experiences, Equipment, and Enrichment) can significantly help students with disabilities.

When I was a senior, I was able to earn course credit working at the Center for Paralysis Research, which primarily conducts biomedical lab research using in vitro and in vivo models. I was severely limited in what type of manual lab tasks I could perform, but I was able to experience lab research first-hand and dispel some of the unknowns for me. During the past two summers, the IAS has organized summer undergraduate research fellowships (SURF) for students with disabilities. Similar to other SURF programs, students with disabilities were placed in research labs across Purdue focusing on such areas as pharmacology, cancer biology, microbiology, biomedical engineering, and nutrition.

At the beginning of these programs, there is naturally some discussion on how the SURF student will be able to perform the requisite lab tasks that specific labs typically perform. Most of the SURF faculty mentors never had a student with a disability in their labs before. Likewise, this might be the first time the student stepped into a lab. Due to the short timeframe of the SURF internship, the IAS provided accommodation support to facilitate productivity as quickly as possible. Though we have specialized lab AT that we often loan, most of the physical accommodations SURF students require are commonly available through a university's Disability Office, such as braille or tactile printouts of research papers and other documents, braille labels on lab equipment, or captioning or audio amplification during lab meetings and seminars. However, technical solutions for operating or interpreting data from lab equipment are necessary. A low-tech solution for a student with very limited field of view and low visual acuity to perform Western blots only required the use of colored dyes and external light sources to improve visibility. Routine lab equipment like a video camera mounted to a light microscope has helped students with visual and mobility impairments to

view specimens without needing to use the microscope eyepieces. We have developed a high-tech, motorized research microscope with automatic slide loader and motorized stage to enable quadruplegics and low vision users to perform image analysis, morphometry, and 3-D computer reconstructions of tissues from serial histological sections without requiring assistance. Though this is expensive equipment, it was purchased through grant funds and allowed me to independently collect and analyze research data and draw conclusions - key activities of scientific inquiry. This equipment also provided me a practical understanding of light microscopy that I had not had before. Both NIH and NSF provide supplemental awards to fund AT and other lab equipment to assist students and scientists with disabilities. Senior engineering design teams may also help in solving specific lab barriers for students with disabilities. The [IAShub.org](http://IAShub.org) also provides solutions.

## Is it worth it?

There are certainly limitations of students with disabilities, but that does not mean they cannot be productive members of your lab or contribute greatly to scientific endeavors. One must simply look at the accomplishments of Isaac Newton, Stephen Hawking, John Nash, Alexander Graham Bell, or Johannes Kepler, who are known to have various disabilities throughout their scientific careers. Such notable examples aside, I find the simple fact that two of our recent SURF students have been asked to continue working in their respective research labs after the program as confirmation that the merits of students with disabilities may be initially overlooked but are quickly realized if given the opportunity.

Final considerations when accepting a student with a disability to your lab is to be open to adapt the method of scientific inquiry to the strength of the student. I believe good mentors already do that with every student. There is an understandable tendency to hire one's concept of the ideal graduate student, judged by what school they attended, the reputation of their department, GPA, or other factors. A student with a disability may not fit that ideal. Perhaps that is another reason why senior faculty are more willing to "take a chance" on accepting a student with a disability, because they are willing to explore the unknown.

Personally working with students with disabilities different from my own has challenged me to rethink how to design experiments. Just because I typically look at solving a problem a certain way

does not mean that it is the best way. I think that one of the greatest benefits of working with a student with a disability is to be able to look at a problem from a different perspective.

To comment on this article, go to:  
<http://www.the-aps.org/forum-disabilities>. ❖



**Experimental Biology 2014**  
**San Diego, CA· April 26-30**  
**APS Career/Mentoring/Trainee Sessions**

**Mark Your Calendars!**

[the-aps.org/careersymp](http://the-aps.org/careersymp)

**Career Symposium**  
**"Conscious Choice and Serendipity  
in Your Career Trajectory"**

**Tuesday, April 29, 8:00-10:00AM**      **Convention Center, Room 25C**

Talks:

**A Government Scientist's Perspective**      **Transitioning from Faculty to Professional Advisor**  
**Project Realization and Management in Industry**      **Career Opportunities for Scientists in Big Pharma**  
**Application of Physiology in Product Innovation and Business Strategy**  
**Physiologists Role as Medical School Curriculum Architects**

[the-aps.org/mentorsymp](http://the-aps.org/mentorsymp)

**Mentoring Symposium**  
**"Ahead of the Curve: Taking the Lead"**

**Wednesday, April 25, 8:00 - 10:00 AM**      **Convention Center, Room 28A**

Talks:

**Why are Leadership Skills Important?**  
**How Do You Obtain Leadership Skills?**  
**How Do You Demonstrate Leadership Skills?**

[the-aps.org/traineesymp](http://the-aps.org/traineesymp)

**Trainee Symposium**  
**"The Other Side of the Submit Button:  
The Ins and Outs of the Manuscript Review Process"**

**Wednesday, April 24, 10:30 AM - 12:30 PM**      **Convention Center, Room 28A**

Talks:

**How to Become a Reviewer?**  
**What Are the Responsibilities of a Reviewer?**  
**What is Included in a Review?**



## APS Asks Wildlife Service to Continue Chimpanzee Research

Biomedical research with captive chimpanzees should be allowed to continue, the American Physiological Society said in comments to the US Fish and Wildlife Service (F&WS). This was the central tenet of the APS response to a proposal that would classify captive chimpanzees as endangered under the Endangered Species Act (ESA).

"Chimpanzees stand in a unique position," the APS wrote. "They face major threats to their continued existence in the wild. At the same time, captive chimpanzees have served as an important biomedical research model."

The August 12, 2013 comment letter pointed out that the NIH had just announced implementation plans for the Institute of Medicine's recommendations to continue a scaled-down program of biomedical research with chimpanzees. Such research, conducted using strict ethical and scientific criteria, would be consistent with the scientific research exceptions permissible under the ESA, the APS noted.

"Given the many protections already in place for chimpanzees in biomedical research, the APS urges F&WS to expedite the permitting process to minimize its impact on the development and dissemination of treatments for serious diseases," the APS wrote.

Since 1990, captive chimpanzees have been classified as threatened even though wild chimpanzees were considered endangered due to human encroachment on their habitat, poaching, and infectious diseases. The threatened classification covered chimpanzees in biomedical research as well as chimpanzees used for entertainment and kept as pets.

The F&WS action came in response to a petition submitted by the Humane Society of the US, the American Association of Zoos and Aquariums, the Jane Goodall Institute, and other conservation and animal rights organizations. The petition asked the F&WS to re-classify captive chimpanzees as endangered on the grounds that the "exploitation" of captive chimpanzees in these activities exacerbates the plight of wild chimpanzees. However, in

reviewing the evidence presented by the petitioners and the current threats faced by wild chimpanzees, the F&WS said it "did not find evidence that this situation was a significant driver in the status of the species."

Nevertheless, on the basis of a legal review of the statutory language and legislative history of the ESA, F&WS concluded that the law "does not allow for captive animals to be assigned separate legal status from their wild counterparts on the basis of their captive state." The APS did not address this revised legal analysis. Rather, its comments focused on how biomedical research with captive chimpanzees is consistent with objectives of the ESA and has the potential to enhance the conservation of the species through infectious disease research.

## Italian Scientists Urge Research Restrictions Be Rejected

The American Physiological Society has sent a statement of support ([http://www.the-aps.org/Pro-Test\\_Italia\\_Rally](http://www.the-aps.org/Pro-Test_Italia_Rally)) to a group of Italian scientists who are seeking to draw attention to recently-approved legislation that could severely restrict animal research in that country. The group, Pro-Test Italia, will hold a rally in Rome on September 19, urging that the government to reject these restrictions.

In 2010, the European Union (EU) approved new legislation on the Protection of Animals Used for Scientific Purposes (Directive 2010/63/EU) (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:276:0033:0079:en:PDF>). The 28 members of the EU—including Italy—were required to write these provisions into their own laws by the end of 2013. Because the goal was to create a common set of animal welfare standards, the Directive included language stating that national implementing legislation should not include further restrictions apart from measures already in place prior to November 9, 2010.

In July of this year, the Italian Senate approved legislation that added restrictions above and beyond the requirements of the EU Directive. The Italian

Chamber of Deputies approved the same measure a few weeks later. These amendments to the EU Directive would prohibit basic research with dogs, cats, and non-human primates. The legislation would only allow research on these species when it is directly relevant to human health or to the health of the species, and then only with the approval of the Italian Ministry of Health. However, it would preclude basic research such as that intended to advance understanding of biological processes or disease mechanisms. The amendments would also prohibit research on addiction and xenotransplantation and would bar the use of animals in teaching except for the training of veterinarians and physicians.

Other provisions supposedly intended to protect animals would in fact have deleterious welfare consequences. The use of anesthesia or analgesia would be required except for research on anesthetics and analgesics. That would mean that even minor procedures such as an injection or blood sample would require that anesthesia or analgesia be administered. Another provision would prohibit the breeding of dogs, cats, and non-human primates in Italy. This would mean that research with these species would require that animals be transported from other countries, subjecting them to the hardship of extended travel.

In 2010, the American Physiological Society Council approved a position statement (<http://www.the-aps.org/mm/SciencePolicy/About/Policy-Statements/Animal-Research-is-Essential.htm>) on research with animals that said, in part:

"Humane research involving animals provides unique insights into biological structure and function. These insights offer major benefits to both human and animal health. The American Physiological Society is strongly committed to ensuring that research animals are treated humanely and that their use is regulated appropriately."

The amendments added to the legislation meant to transpose EU Directive 2010/63/EU into Italian law do not represent appropriate regulation. Unless the Italian government takes forceful action, Italian science may suffer a significant set-back. ♦

## New Regular Members

\*transferred from student membership

- |  |  |  |
|--|--|--|
| <b>Josephine C. Adams</b><br>Univ. of Bristol, UK                | <b>Richard Martin Green</b><br>Northwestern Univ., IL                | <b>C. Noel Bairey Merz</b><br>Cedars-Sinai Heart Inst., CA                   |
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| <b>Steven Eliades</b><br>Univ. of Pennsylvania Sch. Med.         | <b>Katrin Krumbholz</b><br>MRC Inst. Hearing Res., Nottingham, UK    | <b>Oleksandr Sanyk</b><br>Ukrainian Med. Stomatological Acad., Ukraine       |
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| <b>Joanne Engel</b><br>Univ. of California, San Francisco        | <b>Daniel Le Bars</b><br>INSERM, Paris, France                       | <b>Vanessa Sherk</b><br>Univ. of Colorado, Aurora                            |
| <b>Malin Fex</b><br>Lund Univ., Sweden                           | <b>Daniel Llano</b><br>Univ. of Illinois, Urbana                     | <b>Samuel M. Sherman</b><br>Univ. of Chicago, IL                             |
| <b>Christopher Henry Fry</b><br>Univ. of Surrey, UK              | <b>Jose Ramon Lopez Lopez</b><br>Univ. of Valladolid, Spain          | <b>Satoshi Shimegi</b><br>Osaka Univ., Toyonaka, Japan                       |
| <b>Stephen Gehrlich</b><br>Salisbury Univ., MD                   | <b>Carolyn Lutzko</b><br>Cincinnati Children's Hosp., OH             | <b>Masakazu Shiota</b><br>Vanderbilt Univ., TN                               |
| <b>Abhisek Ghosal</b><br>VA Med. Ctr. Long Beach, CA             | <b>Geoffrey N. Maksym</b><br>Dalhousie Univ., Halifax, Canada        | <b>Najeeb Ahmed Khan Shirwanay</b><br>Jerry L. Pettis Memorial Med. Ctr., CA |
| <b>Claudia Gottstein</b><br>Univ. of California, Santa Barbara   | <b>Michael W. Manning</b><br>Duke Univ., NC                          | <b>Vadim Shlyonsky</b><br>Univ. Libre De Brussels, Belgium                   |
| <b>Andrea Green</b><br>Univ. De Montréal, Montréal, Canada       | <b>Bernard J. Martin</b><br>Univ. of Michigan, Ann Arbor             | <b>Arif Siddiqui</b><br>Riphah International Univ., Pakistan                 |
| <b>Melanie Cree Green</b><br>Childrens Hospital, Aurora, CO      |  |  |



**Deanne Helena Skelly**

Univ. of Melbourne, Australia

**Olusoga Adekunle Sofola**

Univ. of Lagos, Nigeria

**Ramesh Srinivasan**

Univ. of California, Irvine

**Takashi Tarumi\***

Univ. of Texas Southwestern Med. Ctr.

**Rubin Tudor**

Univ. of Colorado, Denver

**Svitlana Tymchenko**

Crimea St. Med. Univ., Ukraine

**Victor V. Uteshev**

Univ. of North Texas HSC

**Tim P. Vogels**

Oxford Univ., UK

**Madhusudanarao Vuda**

Royal Victoria Hosp., Montreal,  
Canada

**Zhijie Wang**

Univ. of Wisconsin, Madison

**Lin Yang**

Univ. of Kentucky, Lexington

**Tracy L. Yarbrough**

George Washington Univ.,  
Washington DC

**Qiqi Ye**

Yale Med. Sch., New Haven, CT

**Yisang Yoon**

Georgia Regents Univ., Augusta

**Tetiana Zaporozhets**

Ukrainian Med. Stomatological  
Academy, Ukraine

**Ronghua Zhuge**

Univ. of Massachusetts

## New Graduate Student Members

**Bernadette Adeyileka**

Robert Gordon Univ., UK

**Christopher Oloruntoba Akintayo**

Afe Babalola Univ., Nigeria

**Christopher Ballmann**

Auburn Univ., AL

**Thales Coelho Barbosa**

Fluminense Fed. Univ., Brazil

**Josip Borovac**

Univ. of Split, Croatia (Hrvatska)

**Sumana R. Chintalapudi**

Univ. of Tennessee HSC

**Amy Crandall**

Brigham Young Univ., UT

**Marangelie Criado Marrero**

Ponce School of Med., Puerto Rico

**Rohit Dasgupta**

Georgetown Univ., DC

**John Henry Dasinger**

Univ. of Mississippi Med. Ctr.

**Susanna Desole**

Medical Univ., Innsbruck, Austria

**Brad Dieter**

Univ. of Idaho

**Jonatan Eriksson**

Linköping Univ., Sweden

**Rachel E Foong**

Telethon Inst. Child Health Res.,  
Australia

**Abubacarr Kawsu Gassama**

Univ. of Birmingham, UK

**Melissa Geyer**

Univ. of Illinois, Chicago

**Kelly Grimes**

Univ. of Texas HSC, San Antonio

**Esra Bihter Gurler**

Marmara Univ., Turkey

**Angela Harvill**

Kennesaw State Univ., GA

**Emily Henson**

Wayne State Univ., MI

**Darach O. H-Ici**

King's College of London, UK

**Adam Jajtner**

Univ. of Central Florida

**Malgorzata Kasztan**

Medical Univ. of Gdansk, Poland

**Nafiisha Khoyrattee**

Bordeaux Cardio-Thoracic Res. Ctr.,  
France

**Olivia Kober**

Inst. of Food Research, UK

**Vivianne Kokje**

Leiden Univ. Med. Ctr., Netherlands

**Josef Ladenbauer**

Technische Univ. Berlin, Germany

**Regan Lawson**

Georgia Inst. of Tech.

**David Logan**

Univ. of Maryland

**Danielle Miranda**

Mayo Clinic, AZ

**Elyse Munoz**

Penn State Univ.

**Anthony Chukunweike Okolo**

Imperial College of London, UK

**Ademola Adetokunbo Oyagbemi**

Univ. of Ibadan, Nigeria

**Olubunmi Simeon Oyekunle**

Ladoke Akintola Univ. Tech., Nigeria

**Oluwakemi Tinuolaoluwa Oyelowo**

Univ. of Lagos, Nigeria

**Oluwatosin Imoleayo Oyeniran**

Usmanu Danfodiyo Univ. of Nigeria

**J. Luke Pryor**

Univ. of Connecticut

**Keith Pugh**

Univ. of Birmingham, UK

**Simone Rivolo**

King's College of London, UK

**Daisy Motta Santos**

Univ. Federal de Minas Gerais, Brazil

**Kalpit Shah**

Rosalind Franklin Univ. of Med.  
and Scis., IL

**Cody D. Smith**

East Carolina Univ., NC

**Shinichiro Sugiura**

Univ. of Toledo, OH

**Holly Lyn Tamski**

Marshall Univ., WV

**Emma Thompson**

Univ. of Birmingham, UK

**Pedro Vargas**

Brunel Univ., UK

**Jessica Weissman**

Colorado State Univ.

**Jared Allen White**

Univ. of Mississippi

**Rebecca June Wilson**

Univ. of Virginia

**Hiroyuki Yamashiro**

Kyoto Univ., Japan

## New Affiliate Members

**Cynthia Jean Carnahan**

Allegany College of Maryland

**Bernard Fowler**

Maquet, FL

**Leslie King**

Univ. of San Francisco

**Erik Seidel**

Colorado Univ.

**Imogene (Genie) Vopn Hofe  
Younger**

Southwest Tennessee Comm. College

## New Undergraduate Student Members

**Maryam Abdulsalam**  
Montclair State Univ., NJ

**Heather Briana Denson**  
Univ. of Florida

**Charles Ebersbacher**  
Univ. of Cincinnati, OH

**Jacob Turner**  
Univ. of Cincinnati, OH

## Recently Deceased Members

**Hugh E. Huxley**  
Waltham, MA  
**Adrian I. Katz**  
Chicago, IL

**Patrick J. Kelly**  
Rochester, MN  
**Frank E. South**  
Newark, DL

**Betty M. Twarog**  
Edgecomb, ME  
**Esmail Meisami**  
Urbana, IL

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f t y

FEMALE REPRODUCTIVE SYSTEM

MALE REPRODUCTIVE SYSTEM

## Animal Care and Experimentation



**Gaylen L. Edwards,**  
**Chair**

Bill Yates completed his term as committee chair on December 31, 2012, and I am grateful for the leadership and direction he provided the Animal Care and Experimentation (ACE) Committee. During 2012-2013, the ACE Committee focused on promoting research advocacy and reducing burdensome animal welfare oversight. We also provided comments to the National Institutes of Health concerning its plans to implement the Institute of Medicine's recommendations for the use of chimpanzees in biomedical research.

### Advocacy

Americans for Medical Progress President Jacquie Calnan met with the ACE Committee in Bethesda during our fall meeting. She pointed out that since "scientists are at the forefront of biomedical advances. . .who better to explain the importance of research, the need for animal models, and the care that the animals receive?" She then suggested various ways that scientists can engage in effective outreach by sharing stories about why our research is important with the friends, neighbors, and family members we encounter in our daily lives. A written version of her presentation is posted online at <http://www.the-aps.org/mm/SciencePolicy/Advocacy/Advocacy-Resources/Finding-Advocacy-Opportunities.html>.

In 2013, the ACE and Science Policy Committees jointly launched a Chapter Advocacy Outreach Program to provide speakers to three state chapter meetings. Richard Nichols was selected to make a presentation at the Iowa Physiological Society's meeting on September 21. Speakers from the Science Policy Committee will give presentations at the Nebraska and Arizona chapter meetings. Other chapters are invited to contact the APS Office of Science Policy to request Advocacy Outreach Speakers in 2014.

The ACE Committee also continues to grapple with how best to provide appropriate resources for researchers engaged in educational outreach.

### Regulatory burden

At its fall 2012 meeting, the ACE Committee met with Carol Clarke of USDA's Animal and Plant Health Inspection Service. Dr. Clarke provided an update on USDA's current regulatory activities. Because regulatory burden has been an increasing problem, in March 2013, the National Science Board issued a Request for Information on reducing administrative burden. The APS submitted comments about animal research regulations, emphasizing that the objective should be "to ensure animal welfare while minimizing unnecessary burden." The full APS response is posted on the Science Policy web pages at <http://www.the-aps.org/mm/SciencePolicy/About/Comments-Letters/AdministrativeBurden.pdf>.

## Chimpanzees in Biomedical Research

On March, 22, 2013, the APS submitted comments to the NIH on proposed plans to implement the Institute of Medicine's recommendations on the use of chimpanzees in biomedical and behavioral research. The comment letter, posted at <http://www.the-aps.org/mm/SciencePolicy/About/Comments-Letters/WGcomments.pdf>, voiced support for NIH's efforts to "proceed down a science-based path to resolve issues related to future research involving chimpanzees." At the same time, the APS urged NIH to reconsider certain recommendations made by its Working Group on the Use of Chimpanzees in NIH-Supported Research. APS asked whether 50 animals was the appropriate number since the Working Group established procedures to transfer chimpanzees out of the research population if they were not needed but did not provide a way to add more chimpanzees in case of future need. APS also recommended greater flexibility in housing requirements and urged NIH to reconsider the Working Group's ambitious timetable. On June 26, NIH Director Francis Collins announced that the agency would accept most of the Working Group's recommendations. The NIH will permit greater flexibility in enclosure size and relax the timetable for transferring chimpanzees to sanctuaries, but no provision was made to add more animals to the research colony.

At the time the ACE Committee submitted its annual report, we were still working on a response to a US Fish and Wildlife Service (F&WS) proposal to re-classify all captive chimpanzees as endangered. This would mean that research with chimpanzees would require a special permit. The APS subsequently submitted comments urging the F&WS to ensure that biomedical research with captive chimpanzees can continue if the re-classification goes forward. The August 12, 2013 letter noted that "chimpanzees stand in a unique position" in that they "face major threats to their continued existence in the wild." However, "at the same time, captive chimpanzees have served as an important biomedical research model," the letter said. The letter also emphasized that scientific research is consistent with the purposes of the Endangered Species Act. "Given the many protections already in place for chimpanzees in biomedical research, the APS urges F&WS to expedite the permitting process to minimize its impact on the development and dissemination of treatments for serious diseases." These comments are available online at <http://the-aps.org/mm/SciencePolicy/About/Comments-Letters/FWSCComments.pdf>.

### Science Policy News

In June 2012, the APS Science Policy Office initiated a new publication, *Science Policy News (SP News)*. This is a monthly electronic bulletin with a strong focus on advocacy oriented information. APS members who would like to subscribe can send an email request to [sciencepolicy@the-aps.org](mailto:sciencepolicy@the-aps.org).

### Future Activities

The fall ACE meeting is scheduled to meet October 15-16, 2013 in Bethesda. The Committee is also preparing a Public Affairs symposium to be presented in San Diego at EB 2014 entitled, "Administrative Burden: Impact on research and how to address it." ♦

- Council accepted the report of the Animal Care and Experimentation Committee.



## Awards Committee



**Christine Maric, Chair**

For the Research Career (RCEA) and Teaching Career Enhancement Awards (TCEA), the Committee received nine applications. Four applications were received for the TCEA, which is similar to the number of applications received in the past five years. The Committee continues to work on finding ways to better promote and solicit high quality applications for the TCEA, in particular. The Committee decided to broaden the applicant pool for the TCEA by sending out the call for applications through the Teaching Section.

While the Young Investigator Awards (YIA) continue to attract the most number of extremely competitive applications, there appears to be a decline in the number of applications received compared with previous years. The Committee received two applications for the Arthur C. Guyton Award, eight for the Lazaro J. Mandel YIA, seven for the Shih-Chun Wang YIA and 19 for the Dean Franklin YIA. Despite the fact that the number of applications has declined, the quality of the applications received was truly outstanding, especially for the newly established Dean Franklin YIA.

The APS Awards Committee met at the Experimental Biology Annual Meeting in Boston, MA. At that meeting, the Committee discussed ideas for a new award or Fellowship that would replace the Physiological Genomics Award; and the future of the Teaching Career Enhancement Award. Members of the Committee suggested that the call for applications be sent out training program directors and course directors. In addition, the description of the award will be amended to include aspects of teaching that the award would fund.

### 2012-2013 Award Recipients

#### *RCEA and TCEA Award Recipients*

2012 Fall RCEA recipients are John Durocher, Michigan Technological Univ., Houghton, MI; and Timo Rieg, Division of Nephrology/Hypertension Univ. of California, San Diego.

2013 Spring RCEA recipients are Benjamin Bikman, Department of Physiology and Developmental Biology, Brigham Young Univ.; Berry Pinshow, Jacob Blaustein Institutes for Desert Research, Ben-Gurion Univ. of the Negev, Israel; and Parco Siu., Hong Kong Polytechnic Univ.

2012 Fall TCEA recipients are Jason Robert Carter, Michigan Technological Univ.; and Gabi N. Waite, Indiana Univ. School of Medicine.

2013 Spring TCEA recipient is Irma Khachidze, Beritashvili Centre of Experimental Biomedicine, Tbilisi, Georgia.

### Young Investigator Awards

The APS has three Young Investigator Awards, the Arthur C. Guyton Award for Excellence in Integrative Physiology, the Shih-Chun Wang Young Investigator Award, and the Lazaro J. Mandel Young Investigator Award. The Arthur C. Guyton Award for Excellence in Integrative Physiology was

presented to Markus Amann, Department of Internal Medicine, Univ. of Utah School of Medicine. The Lazaro J. Mandel Young Investigator Award was presented to Jennifer Bomberger, Department of Microbiology and Molecular Genetics, Univ. of Pittsburgh School of Medicine. The Shih-Chun Wang Young Investigator Award was presented to Richard Wainford, Department of Pharmacology and Experimental Therapeutics, Boston Univ. School of Medicine. The Dean Franklin Young Investigator Award was presented to Jennifer Sasser, Department of Pharmacology, Univ. of Mississippi Medical Center.

• Council accepted the report of the Awards Committee.

## Career Opportunities in Physiology



**Kathy Ryan, Chair**

### 2013 Career Symposium

In 2013, the Career Opportunities in Physiology (COPC), Trainee Advisory, and Women in Physiology Committees again coordinated the topics of their sessions to provide a complementary set of career advancement sessions for physiologists. The session was entitled "Communicating Science to Non-Scientists: Keys to Funding and Visibility," and speakers provided presentations about effective communication skills necessary for talking with various audiences about one's

work. Multimedia presentations for the Symposium will be posted at the APS website and catalogued at the APS Archive of Teaching Resources for wide dissemination. Users can listen to a narrated PowerPoint presentation.

### 2014 Career Symposium

The symposia to be presented will be entitled "Conscious Choice and Serendipity in Your Career Trajectory: A Panel Discussion."

### Career Presentations at APS Conferences

In 2012, the Committee sponsored a workshop at two APS Conferences: "Autonomic Regulation of Cardiovascular Function in Health and Disease" in July and "2012 APS Intersociety Meeting: The Integrative Biology of Exercise" in October. Irving Zucker, former APS President, presented "The Ins and Outs of Authorship" workshop in July, and Committee member Lacy Holowatz presented it in October.

### Undergraduate Summer Research Fellowship Program (UGSRF)

*2012-13 Program.* The 2012-13 UGSRFs completed their fellowship year by attending EB 2013 in Boston, MA. Of the 24 fellows, 22 (92%) attended EB and 22 (92%) submitted an abstract. The 2012-13 UGSRFs, like those in the past, competed successfully in the David S. Bruce Excellence in Undergraduate Research Award program, winning eight of

the 26 abstract awards and four of the 13 Bruce Awards.

**2013-14 Program.** For the 14th year of the program, 66 applications were received. The quality of the applications was deemed very high by the Committee and they were pleased to be able to recommend 24 students for fellowships. Over the 14-year history of the program, the program has received 716 applications for the 252 awards granted, with an average funding rate of about one-third (35%).

## **APS Undergraduate Research Excellence Fellowship Award (UGREF)**

For the first year of the program, 35 applications were received for the six fellowships. The quality of the applications was deemed very high by the Committee, with 28 applicants scoring more than 70 points and the rest scoring more than 63 points. The Committee was pleased to recommend six students for fellowships; 17% of the applications were funded. This indicates that there is a significant pool of potential applicants for this program and that there are students who are eager to continue their physiology studies over multiple years and who are primarily interested in PhD or MD/PhD programs.

## **Undergraduate Orientation Session at EB**

The EB 2013 orientation session attracted more than 75 undergraduate students. All undergraduate students who submitted a first-author physiology poster were invited and announcements were posted in emails to the Trainee and All-APS listservs.

## **Highlighting Undergraduate Research Papers**

The Committee will invite APS members to send citations of new APS journal articles that have undergraduate students as one of the authors. These articles/students will be cited at the Undergraduate Education section of the APS website and the APS Career Web to encourage other undergraduate students to become active in physiology research. Links will be provided for APS summer research programs, as well.

## **Career Outreach Resources**

The APS Career PowerPoint Presentations provide downloadable PowerPoint files for use at the middle and high school levels, as well as lower and upper undergraduate levels. Since the initiation of this project, these PowerPoint presentations have become important tools not only for use by APS members individually, but in both undergraduate and K-12 outreach programs, especially PhUn Week. It also provides interactive, online physiology activities to enhance the PhUn Week website and engage younger children (early or pre-readers) in doing simple physiology experiments and to engage their interest in science careers. The Committee will be developing career trading cards, pages where students can answer physio-quizzes to unlock special cards and posters.

## **APS Local and Regional Science Fair Awards**

This program encourages APS members to make an APS physiology award at their local or regional science fair at the elementary, middle, or high school level. The program provides opportunities for students from elementary through high school to learn what physiology is and to become "associated with the field" through recognition of their work. The program also builds connections between APS members and their local schools. Finally, it encourages local fairs to promote physiology-based projects to their students, since there

are potential awards to be won. Student winners receive an APS t-shirt and a certificate for the best physiology project. The teachers of the winning students receive the APS book, *Women Life Scientists: Past, Present, and Future* and an APS resource packet. Up to 100 awards are available each year on a first-come, first-served basis.

## **Physiology Video Contest for Undergraduate and Graduate Students**

The Committee was pleased to receive 10 submissions that met all of the criteria for copyright, permissions, etc. The applicants included both undergraduate and graduate students. The Committee selected "Hillbilly Hypoglycemia" by Michael Ridlehoover, Alexis Wren, and Zachary Minter at Augusta State Univ. as the First Place winner. It was also selected as the Viewer's Choice award by the general viewing public. It should be noted that their institution provided funding for all three students to attend EB. All entries will be included in the Archive.

## **Excellence in Professional Student (MD or DO) Research Travel Award**

For the first year of the program, 13 applications were received. The Committee was pleased to recommend eight students for fellowships, thus, 62% of the applications were funded. These students were matched with a mentor for EB, similar to what is done for the Minority Travel Fellows Program. Fellows and mentors corresponded via email and then met each other at an Orientation Session on Sunday morning.

• Council accepted the report of the Careers Opportunities in Physiology Committee.

## **Chapter Advisory Committee**



**Harald M. Stauss, Chair**

As my term as chair of the APS Chapter Advisory Committee (CAC) ends, I am looking back at three years of steady growth of the APS Chapter Program. The rapid increase in the number of local Physiological Societies (official APS Chapters) started with the enthusiastic efforts of Dr. Peter Lauf, who served as the first CAC chair and continued to work diligently for the APS Chapter program. With the recent inauguration of APS Chapters in the greater Washington DC area, Kentucky, Michigan, Missouri, and Pennsylvania there are currently 15 local APS Chapters (for a list of all APS Chapters see: <http://www.the-aps.org/mm/hp/Audiences/Chapters>).

APS Chapters contribute significantly to the various missions of the APS. For example, APS Chapters collaborate with the APS Trainee Advisory Committee to awaken interest in the discipline of physiology at the grass roots level and enticing younger generations into considering the discipline of physiology as a career. To this end, APS Chapters visit local high schools and demonstrate basic physiology-related experiments,

organize teacher workshops and career fairs for graduate and undergraduate students, participate in state-wide science fairs and in the APS-sponsored Physiology Understanding (PhUn) week, and are engaged in various other outreach activities. Some of these activities are sponsored through the new Chapter Activity Grant program that provides APS Chapters with up to \$2,000 for specific outreach activities.

APS Chapters also collaborate with the APS Animal Care and Experimentation Committee and with the APS Science Policy Committee to strengthen advocacy outreach activities of APS. The goal is to disseminate the culture and philosophy of the discipline of physiology across societal strata and boundaries. To provide APS Chapters with the needed support for this important but difficult goal, a Chapter Advocacy Outreach Program has been initiated that provides funds to incorporate advocacy training into the annual Chapter meetings. This new program is well-received by the APS Chapters and certainly has the potential to strengthen the advocacy outreach activities of the APS Chapters, possibly through events funded through the Chapter Activity Grant program.

The annual APS Chapter meetings continue to be well attended. This year, a total of 669 Physiologists attended eight annual APS Chapter meetings. The APS provides each APS Chapter with \$500 for trainee awards. These funds have been used to provide a total of 41 monetary awards to trainees, including undergraduate students (15 awards), graduate students (21 awards), and postdoctoral fellows (five awards). The APS also supports the annual APS Chapter meetings with \$1,000 to cover the costs for keynote speakers. This year, 13 keynote speakers presented at local APS Chapter meetings. Typically, these keynote lectures are either focused on a specific scientific topic or in many cases cover educational topics, such as "Integrating Research into the Undergraduate Physiology Curriculum" or "Utilizing Exams with a Group Component in an Undergraduate Physiology Course." Many Chapters also obtain support from industrial sponsors who sometimes sponsor specific trainee awards (e.g., a travel award for an undergraduate student to participate and present data at the annual Experimental Biology meeting) or cover the costs for an additional keynote lecturer.

Maybe the most apparent changes in the APS Chapter program over the last three years is that local APS Chapters are more and more integrated within the APS parent society through direct interactions and collaborations with APS Committees, such as the APS Trainee Advisory Committee, the APS Animal Care and Experimentation Committee, and the APS Science Policy Committee. Moreover, new programs such as the Chapter Advocacy Outreach Program and the Chapter Activity Grant Program have been well-received by APS Chapters and are already starting to make an impact on how the discipline of Physiology is received in the general public. Currently, discussions are ongoing to further strengthen the role of APS Chapters by initiating new programs. For example, the APS Trainee Advisory Committee is considering a Graduate Student Ambassador Program with the goal to coordinate networking activities among trainees within local regions covered by APS Chapters.

Even though the number of APS Chapters increased from five to 15 since the CAC was formed six years ago, there are, unfortunately, still many US States in which physiologists failed to initiate local APS Chapters. If you are from one of these US States and want to charter a new APS Chapter in

your local region, please contact me (harald-stauss@uiowa.edu) or the APS CAC contact Ms. Catherine Ohnmacht (cohnmacht@the-aps.org) for information and assistance (please also see: <http://www.the-aps.org/mm/hp/Audiences/Chapters/chap-guidelines>).

Finally, I would like to thank the APS, all CAC members and APS Chapter officers for all their help and support throughout my term as CAC Chair. Furthermore, I would like to specifically thank Dr. Peter Lauf for his invaluable service as CAC Sage and Ms. Catherine Ohnmacht for her priceless administrative assistance. Everyone enthusiastically volunteered countless hours of work to the APS Chapter Program. Seeing many new APS Chapters being inaugurated, discussing posters with undergraduate students who have received travel awards to participate at the Experimental Biology meeting through APS Chapters, receiving e-mails from US Congressman Dave Loebsack in response to advocacy activities from APS Chapters, and other like experiences have been highly rewarding. I am confident that the APS Chapter Program is moving in the right direction and I am eager to see this program grow through the coming years.

- Council accepted the report of the Chapter Advisory Committee.
- Council approved the proposed Bylaws for the Missouri Chapter
- Council approved the recommendation to fund the Chapter Activity Grant proposal in the amount of \$2,000 as submitted by the Indiana Chapter
- Council approved the recommendation to support the inaugural meeting of the Kentucky Chapter with a one-time grant in the amount of \$1,000

## Committee on Committees



**Jane Reckelhoff, Chair**

The Committee on Committees (CoC) is composed of a representative appointed by each of the 12 APS Section Steering Committees plus two Councilors who serve as Chair and Incoming Chair. Its primary duty is to nominate individuals to serve on APS standing committees and on outside bodies where the APS is represented. The CoC members try to identify and promote members of their section who might serve on committees, but also to set aside section affiliations to work together to nominate the best-qualified individuals to serve the society, keeping in mind the desire to promote diversity and the involvement of younger members in the committee structure.

### Characteristics of the 2013 Applicant Pool

The CoC was pleased with the pool of applications for committee vacancies this year. This year 206 applications (Table 1A) were submitted (this includes member positions, chairs, and trainee/student positions). Some of these members sub-



## APS Standing Committees Number of Positions (including new positions; does not include alternate positions)

Committee	Number of Positions Available
Animal Care & Experimentation	1 member
Awards	Chair, 5 members
Career Opportunities in Physiology	3 members, 1 student, 1 trainee
Communications	1 member, 1 <i>AJP</i> rep., 1 student, 1 new position
Conference	Chair, 3 members
Daggs	Chair, 3 members to be appointed by Executive Cabinet
Distinguished Physiologists	2 members to be appointed by Executive Cabinet
Education	4 members, 1 trainee
Finance	2 members
International	Chair, 4 members
Membership	0 members
Perkins	2 members
Physiologists in Industry	Chair
Porter Physiology Development	Chair, 4 members
Publications	2 members
Science Policy	3 members, 1 trainee
Women in Physiology	3 members, 2 new positions
<b>Totals</b>	<b>51 Total positions: 5 Chairs, 40 members, 2 students, 3 trainees, 1 <i>AJP</i> rep.</b> <i>(this number does not include the positions to be selected by the Executive Cabinet)</i>

mitted applications to more than one committee (Table 1B), so the total number of members applying for committee positions was 156. Table 1C shows the applicant pool by section affiliation by committee. Tables 2A and 2B show the characteristics of the applicant pool and new appointees.

### Results from CoC and Council Meetings

The CoC initially had 54 positions to fill. The CoC recommended to Council that one new position be added to the Science Policy Committee; a new position be added to the Communications Committee; and two new positions be added to the Women in Physiology Committee, thus bring-

ing the total number of positions to fill to 57. These additions were approved by Council.

Tables 3A and 3B shows the composition of the committees in terms of representation by section affiliation, members that are under the age of 45, women, living outside of the US, employed in Industry, and trainees.

### Planning for 2015

The CoC hopes that many APS members will consider serving the Society as a member of one of its standing committees and we hope that Section Steering Committees will play an active role in encouraging their section members to

**Table 1A: Total Number of Applicants**

ACE	11
Awards	13
Careers	34
Communications	6
Conference	9
Daggs	1
Distinguished Physiologists	1
Education	28
Finance	4
International	26
Membership	18
Perkins	2
PIC	1
Porter	9
Publications	7
Science Policy	16
Women	20
<b>TOTALS</b>	<b>206**</b>

**\*\*This includes candidates who applied for more than one committee.**

**Table 1B: Total number of UNIQUE Applicants by Section**

CV	20
Cell	14
CNS	10
Comparative	6
EEP	11
Endocrinology	7
GI&L	6
NCAR	13
Renal	20
Respiration	20
Teaching	6
WEH	29
<b>TOTAL</b>	<b>156</b>

**Table 1C: Total Number of Applicants by Section**  
(Based on 206 applications)

Section	CV	Cell	CNS	Comp.	Endo.	EEP	GI&L	NCAR	Renal	Resp.	Teach.	WEH	None	Total
ACE	3	1	1	1	0	1	1	1	1	0	0	1	0	11
Awards	2	3	0	0	0	0	0	1	4	1	0	2	0	13
Careers	5	4	0	0	1	2	2	5	5	1	0	3	0	34
Communications	0	0	0	0	0	0	0	1	0	3	0	2	0	6
Conference	1	1	0	1	1	2	1	0	0	0	0	2	0	9
Daggs	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Distinguished	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Education	3	4	1	2	1	2	0	4	0	0	3	8	0	28
Finance	0	0	0	0	0	1	0	0	2	1	0	0	0	4
International	1	2	5	2	2	3	0	1	2	2	1	5	0	26
Membership	2	3	4	0	1	0	0	0	1	3	0	4	0	18
Perkins	0	1	0	0	0	0	0	0	0	0	0	1	0	2
PIC	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Porter	2	0	0	0	1	0	0	0	2	0	1	3	0	9
Publications	1	1	0	0	0	0	0	1	2	2	0	0	0	7
Science Policy	2	1	0	1	1	1	2	2	1	2	0	2	0	16
Women	2	3	1	0	1	2	3	0	4	0	1	4	0	20
TOTALS	24	24	12	7	9	15	9	16	24	16	6	38	0	206

**Table 2A. Section Affiliation of Applicant Pool and New Appointees**  
(Based on 156 UNIQUE applications, does not include alternates)

Section	2011	2012	2013	2014 New Appointees	All APS Members**
Cardiovascular	38 (21%)	25 (19.5%)	5 (12.2%)	6 (11.8%)	22%
Cell & Molecular	18 (9.8%)	10 (7.8%)	3 (7.3%)	5 (9.8%)	12%
Central Nervous System	2 (1%)	7 (5.5%)	5 (12.2%)	2 (3.9%)	9%
Comparative	0 (0%)	5 (3.9%)	2 (4.9%)	4 (7.8%)	4%
Endocrine & Metabolism	2 (1%)	2 (1.6%)	2 (4.9%)	2 (3.9%)	8%
EEP	13 (7%)	12 (9.4%)	2 (4.9%)	2 (3.9%)	9%
Gastrointestinal & Liver	15 (8.1%)	5 (3.9%)	3 (7.3%)	3 (5.9%)	5%
NCAR	22 (12%)	10 (7.8%)	4 (9.8%)	4 (7.8%)	5%
Renal	28 (15.2%)	15 (11.7%)	2 (4.9%)	7 (13.7%)	7%
Respiration	6 (3.3%)	9 (7.0%)	5 (12.2%)	4 (7.8%)	8%
Teaching	4 (2.2%)	6 (4.7%)	4 (9.8%)	2 (3.9%)	3%
WEH	36 (19.6%)	20 (15.6%)	3 (7.3%)	10 (19.6%)	2%
TOTAL	184	128	40	51	11,215

\*\*Does not include honorary or affiliate members.

**Table 2B: Other Characteristics of the Applicant Pool and New Appointees**  
(Based on 156 UNIQUE applications, does not include alternates)

Characteristic	2012	2013	New Appointees	All APS Members
Under age 45	79 (61.7%)	21 (16.4%)	30 (52.6%)	39%
*Women	50 (39.0%)	19 (14.8%)	22 (38.6%)	27%
Reside outside of US	17 (13.3 %)	6 (4.7 %)	1 (1.8 %)	26%
**Student	14 (11%)	0	2 (3.5%)	16%

\*Not all members indicate gender.

\*\*This number refers to student members only (undergraduate and graduate, not postdocs).

**Table 3A: Section Affiliation of 2014 APS Standing Committee Members**

(Does not include Chapter Advisory Committee, Committee on Committees, Joint Program Committee, Physiologists in Industry Committee, Section Advisory Committee, and Trainee Advisory Committee)

Section	2012	2013	2014	All APS Members**
Cardiovascular	22 (14.1%)	23 (15.2%)	20 (12.5%)	22%
Cell & Metabolism	12 (7.7%)	11 (7.3%)	12 (7.5%)	12%
Central Nervous System	6 (3.8%)	9 (6.0%)	9 (5.6%)	9%
Comparative	7 (4.5%)	5 (3.3%)	9 (5.6%)	4%
Endocrine & Metabolism	6 (3.8%)	5 (3.3%)	7 (4.4%)	8%
EEP	10 (6.4%)	9 (6.0%)	13 (8.1%)	9%
Gastrointestinal & Liver	15 (9.6%)	13 (8.6%)	9 (5.6%)	5%
NCAR	15 (9.6%)	17 (11.3%)	18 (11.3%)	5%
Renal	17 (10.9%)	14 (9.3%)	17 (10.6%)	7%
Respiration	12 (7.7%)	12 (8.0%)	15 (9.4%)	8%
Teaching	10 (6.4%)	10 (6.6%)	8 (5.0%)	3%
WEH	23 (14.8%)	23 (15.2%)	23 (14.4%)	2%
<b>TOTAL</b>	<b>155</b>	<b>151</b>	<b>160</b>	<b>11,216**</b>

\*\*Does not include honorary or affiliate members.

**Table 3B: Other Characteristics of 2014 APS Standing Committee Members**

(Does not include Chapter Advisory Committee, Committee on Committees, Joint Program Committee, Physiologists in Industry Committee, Section Advisory Committee, and Trainee Advisory Committee)

	2012	2013	2014	All APS Members
Under age 45	45 (29%)	72 (48%)	76 (47.5%)	39%
*Women	75 (48.3%)	73 (48%)	77 (48.2%)	27%
Reside outside of US	8 (5.1%)	9 (6%)	9 (5.7%)	26%
**Students	7 (4.5%)	6 (4%)	10 (6.4%)	16%

\*Not all members indicate gender.

\*\*This number refers to student members only (undergraduate and graduate, not postdocs).

apply. Applications can be submitted via the APS website, and are due along with an Endorsement form by January 17, 2014. Those candidates who are unsuccessful at securing a committee appointment initially are encouraged to re-submit their credentials for consideration for the same or another committee in the next cycle and those placed as alternates will be re-considered without re-nomination.

- Council accepted the report of the Committee on Committees.

## Communications Committee



**Barbara Goodman, Chair**

### Overview

The Communications Committee is responsible for oversight of the department's programs and provides input and feedback. It is also responsible for selecting the APS-AAAS Mass Media Fellow and hosting a symposium at the Experimental Biology meeting.

### AAAS Mass Media Fellow

This year the Committee selected Dr. Joe Hanson as its 15th sponsored fellow. Dr. Hanson is a biologist and



host/writer of PBS Digital Studios' "It's OK to be Smart." He will serve a 10-week Fellowship at *WIRED* Magazine starting this month.

## EB 2013 Symposium

At this year's Experimental Biology (EB) meeting, the committee sponsored the symposium, "Distilling Your Message for the Public," a 90-minute interactive session conducted by Dr. Evonne Kaplan-Liss, a member of the faculty at Stony Brook Univ. Schools of Medicine and Journalism. The purpose of the event was to help scientists master basic techniques that can help them better explain their work to the non-scientist public, and quickly and clearly show how it fits into a bigger picture. More than 60 people attended the event.

## Upcoming Meetings, EB 2014 Symposium

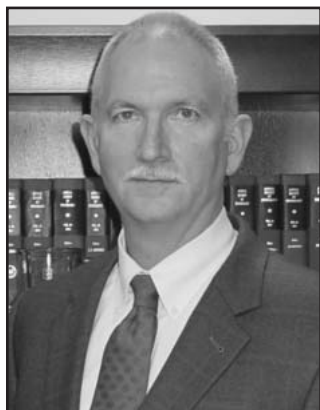
The Committee has met twice this year and will meet in person this fall. It has agreed to sponsor a symposium at next year's EB meeting entitled, "Don't be Such a Scientist!" The program will be led by marine biologist turned filmmaker, Randy Olson.

## Department Activities

The public continues to access the press releases developed by the APS staff and posted to the APS press page. Growth in our comparative physiology blog, written by Dr. Dolittle, continues, as do the number of followers of our primary social media handle, @Physiochick.

- Council approved a recommendation to increase the Mass Media Fellowship by \$1,000 in 2014 and an additional \$500 in 2015

## Conference Committee



**Gerald Meininger, Chair** is exploring the idea of pursuing more cross-sectional programming of conferences that are based on applications received by the programming committee.

## Future conferences

**2014 APS Conference:** APS Institute on Teaching and Learning. This conference has been approved for presentation in 2014. Conference is being held in Bar Harbor, ME, June 23-27, 2014.

**2014 APS Intersociety Meeting:** Comparative Approaches to Grand Challenges in Physiology. This meeting has been approved for presentation in 2014. Meeting is being held in San Diego, CA, October 1-4, 2014.

## Summary of Committee Activities

The Conference Committee held their annual meeting in Bethesda on October 3, 2012. The Committee discussions included how APS conference proposals are put together by applicants and how to improve this process; new procedures for soliciting and organizing conferences; possible revision of the website and utilizing it to advertise the conference program; and potential conference topics. The Committee is

exploring the idea of pursuing more cross-sectional programming of conferences that are based on applications received by the programming committee.

*Endothelin 15* is approved for 2015 pending receipt of final program details.

- Council accepted the report of the Conference Committee.

## Distinguished Physiologists Committee



**Margaret Anderson, Chair**

Four senior physiologists (Drs. Margaret Anderson, Terry Dwyer, David Osborne, and Philip Posner) comprised the Distinguished Physiology Committee in 2012. One of the primary duties of each Committee member is to "develop and maintain liaison with emeritus members and members about to retire." This liaison is accomplished by submitting, on behalf of the Society, a personal 70th, 80th, 90th, or 100th birthday greeting. Each greeting includes an invitation for the senior recip-

ient to inform APS about his or her current activities, interests and whereabouts, and requests "words of wisdom" for younger colleagues. The historical and philosophical commentaries evoked by this invitation provide the material subsequently published in "Senior Physiologist's News" in each issue of *The Physiologist*. By the end of 2012, the Senior Physiologist Committee members sent birthday wishes to 140 members reaching age 70, 62 members reaching age 80, 35 members reaching age 90, and to one member reaching the age of 100! Twelve response letters were received and published in *The Physiologist*.

Another responsibility of the Senior Physiologists Committee is to review applications and recommend to Council the annual awardees of the \$500 G. Edgar Folk, Jr., Senior Physiologists Award. This award is designed to support the scientific activities of a senior member. Unfortunately in 2012, no applications were received for the award.

- Council accepted the report of the Distinguished Physiologists Committee.

## Education Committee



**J. Michael Wyss, Chair**

## ADInstruments Macknight Progressive Educator Award

The Education Committee received six applications for 2013 and recommended APS member Margarita Curras-Collazo of the Univ. of California, Riverside, as the 2013 awardee. Her application included a description of a course she developed, "Educational Training in Neuroscience Outreach" to

empower senior neuroscience majors at UCR with teaching skills and her use of various types of technology in the classroom.

## EB Refresher Course

The 2013 Refresher Course focused on immunology. Consistent with previous years, the sessions were well-attended. Session feedback rated the sessions highly. The session presentations are being prepared for the web and publication in *Advances*. The collection of resources from the 2013 refresher course can be viewed in the Archive.

## Professional Skills Courses

The Education Office and Publications Department, in collaboration with the Society for Biological Engineers and Biomedical Engineering Society, received funding from NSF to support the development of professional skills training modules on publication ethics. The modules will provide a relevant and current knowledge of and appreciation for the facts and principles of the eight most common publication ethics issues, as well as the tools needed to integrate and apply the guidelines to actual situations using professional standards of practice. The education modules will serve as tools for use by higher education institutions, laboratory groups, individuals, and professional societies and will incorporate proven materials and methods, as well as novel approaches. They will be effective for US and international graduate students in science and engineering programs and will integrate easily into Responsible Conduct of Research (RCR) training.

The project will also develop an online Community of Practice (COP) designed to engage trainees and experienced scientists and engineers in ongoing discussions about scientific publishing, publication ethics, and professional standards of practice in these areas. Over the past year, the project staff has developed topics and learning objectives for modules on: authorship, conflicts of interest, data falsification/fabrication, duplicate publication of data and redundant publication, figure preparation/presentation, plagiarism, and animal-human subjects welfare. The draft modules are being developed for field testing at a workshop in conjunction with the January 2014 PST in Orlando, FL.

## Medical Physiology Learning Objectives (MPLO) Project

In conjunction with the ACDP and APS sections, the learning objectives were updated and republished in 2012. They are available in PDF format at the APS website. Also, APS Archive resources are coded and searchable by each MPLO; changes in objectives for the 2012 edition were also created in the Archive and related teaching resources were recoded appropriately.

## Human Anatomy and Physiology Society (HAPS) Collaboration

The 2013 HAPS Conference was held May 25-27 in Las Vegas, NV. APS member Hannah Carey, Univ. of Wisconsin gave a presentation entitled "Unraveling Mysteries of Hibernation."

## National Association of Biology Teachers (NABT) Professional Development Conference

The 2012 NABT Professional Development Conference was held October 31-Nov. 2 in Dallas, TX. APS member Stephen Secor, Univ. of Alabama, gave the presentation, "The Python: Mystery of Nature, Model of Science." "Junkyard Digestion," an activity developed by an APS Frontiers Fellow was the focus of

the hands-on workshop that followed Secor's talk. The 2013 conference will be the NABT 75th Anniversary Conference in Atlanta, GA in mid-November. Gordan Geisbrecht, Univ. of Manitoba, will serve as the APS keynote speaker.

## APS Archive of Teaching Resources

The Archive added 588 new resources since January 1, 2013 and now includes more than 6,000 peer reviewed teaching resources. More than 6,700 Archive Users have registered. In 2013, the Archive added new community features including a user profile and user badges. User profiles are generated for each registered user of the Archive and are only viewable by registered Archive users. In the profile, users can upload a photo and share information on the courses they teach. User badges are also featured in the profile and elsewhere in the site. Badges can be earned by taking part in a number of activities within the Archive, such as rating resources, sharing resources, creating collections, and taking part in the Archive Scholars Program. In addition to implementing the new profiles, the Archive also launched a monthly e-newsletter for all registered Archive users. This e-newsletter highlights high school and undergraduate resources that can be found in the Archive, as well as current news and Archive updates.

## Archive Scholars Program

With support from NSF, the Archive has implemented a professional development program for K-12 and undergraduate educators. The Archive Scholars program is an online fellowship focused on finding and using digital resources to enhance science teaching and learning. To date, the Archive has run two Archive Scholars programs, one for high school educators and one for undergraduate educators. The Archive Scholars Program for High School Educators took place in the fall of 2012 and had eight teachers participating from across the US. Teachers learned how to search for and share resources in the Archive, how to submit collections and resources used in their classroom, and the basic tenants of Six Star Science, the APS research-based science education approach. The Archive Vision and Change Scholars Program took place in the spring of 2013 and had 18 undergraduate faculty members participating from across the US. Faculty learned how to search for and share resources in the Archive, how to submit collections and resources used in their classroom, and the basic tenants of Vision and Change in Undergraduate Education Report created by NSF and AAAS. Evaluations from both programs are currently being reviewed with both programs scheduled to run again in October 2013.

## David Bruce Awards

In 2013, 79 applications were received and 26 Undergraduate Abstract Awardees were selected. In addition to support from the APS, the David S. Bruce Award program has received generous contributions from Dr. Isis, the APS Central Nervous System Section, and individual APS members Marlowe W. Eldridge, John M. Horowitz, Barbara A. Horwitz, Ida J. Llewellyn-Smith, and Thomas Pressley. This support is gratefully acknowledged.

## Experimental Biology Undergraduate Poster Session

In 2013, approximately 200 APS members came to see more than 150 undergraduate physiology posters and to talk with the students. In addition, students from the American Association of Anatomists (AAA) presented their research. This year, 11 institutions and departments paid a \$250 fee for table space to

promote their graduate programs to the undergraduate students at the session, providing \$2,750 to help cover the session costs. Students and departments came 30 minutes early to allow uninterrupted time for the departmental representatives to discuss their graduate opportunities with the students.

## **APS Frontiers in Physiology Professional Development Program for Teachers**

The comparative study of the online and comprehensive programs showed that the pedagogy skills learned at the Science Teaching Forum could be effectively taught online. However, teachers who did not have the summer research experience did not gain the in depth knowledge of the processes of basic research as did teachers who only did an online unit about basic and clinical research. Therefore, for 2012-2013, the APS returned to the comprehensive Frontiers in Physiology Summer Research Teacher Fellowship, including the laboratory experience and online professional development but not the week-long Science Teaching Forum workshop. From a pool of 37 applicants, the Education Committee selected 14 teacher fellows to participate in this program.

## **Physiology Understanding Week**

In 2012, more than 11,000 students were reached at 72 event sites across the nation and Puerto Rico. This effort involved 61 APS member Lead Coordinators and a total of 527 scientists presenting and partnering with 263 classroom teachers and educators. The program exceeded its 2012 goal with outreach to 11,540 students. Distribution by grades included nearly 30% in high school classrooms, 40% in the primary and elementary classrooms, and 30% in middle school classrooms.

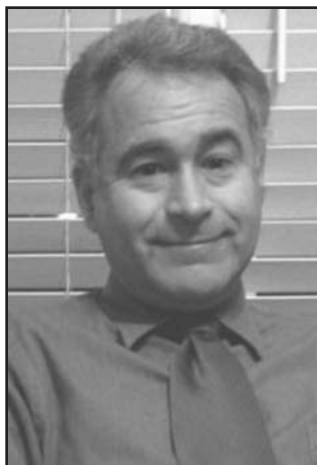
## **International Science and Engineering Fair (ISEF)**

The 2013 Intel ISEF was held in Phoenix, AZ May 12-17th. More than 1,500 students from about 70 countries, regions, and territories presented their research. During the two evenings of awards ceremonies, more than \$3 million in scholarships, cash prizes, and awards were distributed in categories ranging from behavioral science to engineering and medicine. This year's APS judging team included Catharine Clark, Cornell Univ.; Lila LaGrange, Univ. of the Incarnate World; Johana Vallejo-Elias, Midwestern Univ.; and Larry Alexander, Midwestern Univ. The APS judging team evaluated 50 projects based on students' abstracts and selected 12 candidates to interview at their posters.

The first place APS award was presented to Ari Shi Gao, Texas Academy of Mathematics and Science for his project titled "Somatostatin Type 3 Receptors Mediate Protective Effects Against Seizures." The second place APS award was presented to Ingrid Nieves Zippe, Hathaway Brown School for her project titled "Selective Oligodendrocyte Apoptosis as a Model for Multiple Sclerosis." The third place APS award was won by Jay Kumar, duPont Manual Magnet High School, for his project titled "What Are the Mechanisms Underlying Nicotine Induced Neutrophil Apoptosis?" The APS Exceptional Science Award was won by James Nathan Hilt, Middleburg High School (Middleburg, FL) for his project titled "Pumper's Paradise: Which Fast-Acting Insulin Analog Is the Most Efficient?"

- Council approved the request for funding to plan a meeting of Medical Physiology Course Directors.

## **Finance Committee Report**



**Jeff M. Sands, Chair**

During the spring meeting of Council, the Finance Committee reported that the Society's financial condition remains relatively strong through sound management and investment practices.

### **Managed Accounts**

It was reported that, at December 31, 2012, the combined annual return for the Society's five equities investment managers and the two fixed income was +10.96%, which was slightly less than the Society's composite benchmark index of +11.19%.

### **Current and Pending Grants**

The current grant activity totals \$4.8 million and pending grant requests total \$1.35 million.

### **2012 Financial Results**

Revenue, including \$1.36 million from reserves, was \$19.1 million and expenses over the same period were \$17.7 million, resulting in a surplus for the year of \$1.45 million. Note that the 2012 budget called for a projected surplus of \$693,000. The Society was approximately \$760,000 over budget at year-end. Revenue for the year was \$478,000 over budget, and expenses were \$282,000 under budget.

### **2013 Budget**

Increases in revenue of \$29,000 and increases in expenses of \$285,000 resulted in a decrease of \$256,000 in the 2013 projected budget surplus from \$761,000 to \$505,000.

### **Three Year Financial Forecast**

The forecast projects a surplus of \$500,000, \$400,000, and \$400,000 in 2014, 2015, and 2016 respectively. The projection shows revenue growing at annual rates of 2.15% and expenses growing at a rate of 2.4%, from 2013 to 2016. By comparison, the March 2012 projection showed revenue and expenses growing at rates of 0.8% and 2.0% respectively and projected surpluses of \$500,000, \$300,000, and \$100,000 for the years 2013, 2014, and 2015 respectively.

### **2012 Audit**

The Committee reported that the Society's financial statements were audited in accordance with general accepted auditing standards. The Society's audit firm, Rogers & Company rendered an unqualified opinion that the Society's statements presented fairly, in all material respects, regarding the financial position of the Society at December 31, 2012 and 2011.

What follows are facsimiles of the Society's 2012 audited financial statements.

- Council accepted the report of the Finance Committee.



## APS Statements of Financial Position December 31, 2012 and 2011

	2012	2011
<b>Assets</b>		
Cash and cash equivalents	\$ 924,534	\$ 600,230
Investments	49,382,148	45,784,046
Certificates of deposit	294,698	397,780
Accounts receivable, net	950,883	1,196,892
Pledges receivable, net	161,436	298,382
Accrued interest receivable	120,982	127,868
Advances to section editors	197,237	254,592
Prepaid expenses	222,148	170,600
Inventory	47,236	46,038
Property and equipment, net	1,572,416	1,516,009
Total assets	\$ 53,873,718	\$ 50,392,437
<b>Liabilities and Net Assets</b>		
<b>Liabilities</b>		
Accounts payable and accrued expenses	\$ 1,781,895	\$ 1,749,286
Deferred subscriptions	5,102,250	5,471,195
Deferred dues and other	664,136	589,367
Capital lease obligations	101,944	130,383
Total liabilities	7,650,225	7,940,231
<b>Net Assets</b>		
Unrestricted	45,544,269	41,688,071
Temporarily restricted	666,724	751,635
Permanently restricted	12,500	12,500
Total net assets	46,223,493	42,452,206
Total liabilities and net assets	\$ 53,873,718	\$ 50,392,437



## APS Statement of Activities For the Year Ended December 31, 2012

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
<b>Operating Revenue</b>				
Subscriptions	\$ 10,612,227	\$ -	\$ -	\$ 10,612,227
Author charges	3,470,854	-	-	3,470,854
Membership dues	1,064,539	-	-	1,064,539
Grants and contracts	580,388	-	-	580,388
Conferences and meetings	1,086,384	-	-	1,086,384
Contributions	101,099	215,635	-	316,734
Advertising	261,916	-	-	261,916
Other income	400,600	-	-	400,600
Released from restrictions	300,791	(300,791)	-	-
Total operating revenue	17,878,798	(85,156)	-	17,793,642
<b>Operating Expenses:</b>				
Publications	11,590,232	-	-	11,590,232
Society general	3,482,151	-	-	3,482,151
Society programs	974,888	-	-	974,888
Education	1,464,825	-	-	1,464,825
Marketing	505,909	-	-	505,909
Total operating expenses	18,018,005	-	-	18,018,005
<b>Operating Change in Net Assets</b>	(139,207)	(85,156)	-	(224,363)
Net realized gain on investments	1,142,751	-	-	1,142,751
Net unrealized gain on investments	2,346,840	-	-	2,346,840
Interest and dividends	1,034,427	245	-	1,034,672
Investment management fees	(528,613)	-	-	(528,613)
Total investment income	3,995,405	245	-	3,995,650
<b>Change in Net Assets</b>	3,856,198	(84,911)	-	3,771,287
<b>Net assets</b> , beginning of year	41,688,071	751,635	12,500	42,452,206
<b>Net assets</b> , end of year	\$ 45,544,269	\$ 666,724	\$ 12,500	\$ 46,223,493

## International Physiology Committee



**Bryan Mackenzie, Chair**

APS members hail from 88 countries over six continents and over a quarter of the Society's membership is international. International members represent a large and important constituency within The Society and one that is growing—over 30% of new members are internationals. The International Physiology Committee (IPC) seeks to assist APS by identifying and implementing ways in which APS can best serve its international members, achieve globally its goals of fostering education, scientific research and dissemination of information in the physiological sciences, and raise its global stature.

The IPC assists APS in the review of international awards programs. The International Early-Career Physiologist (IECP) travel awards program provides support for students, trainees and junior faculty working outside the USA to attend Experimental Biology (EB). The IPC reviewed 42 applications and APS made 12 awards of \$1,000 each for EB2013 (awardees are named on the APS website).

The IPC also reviewed applications for APS travel awards to support individual attendance at the XXXVII IUPS Congress in Birmingham, UK, 21–26 July 2013. APS committed \$50,000 to the travel program and received grants of \$15,000 from NSF and \$5,000 from NIH. APS reviewed a total of 155 applications over two rounds, and 80 travel awards were made in the amount of \$750 or \$1,000. (The Physiological Society also administered a travel awards program on behalf of IUPS.)

The APS Latin-American Initiative (LAI) provides financial support for symposia, conferences, courses/workshops and other events held in Latin America, with the aim of strengthening ties between APS and sister societies in Latin America, and fostering interactions between APS members and physiologists working in Latin America. APS received five applications for the 2013 program and made three awards each in the amount of \$5,000 for the following events: 1) "Workshop on Exercise and Autonomic Regulation," 28–29 May, 2013, Belo Horizonte, Brazil; Applicant: Dr. Tania Zenteno-Savin, Centro De Investigaciones Biológicas Noroeste S.C., Baja CA, Sur, México; 2) APS "Workshop on Writing and Editing Scientific Manuscripts," May 2013, at the Univ. of São Paulo, Ribeirão Preto, Brazil; Applicant: Dr. Wamberto Varanda, Univ. of São Paulo; and 3) "Redox Regulation in Physiology" at the VIII Meeting of the Society for Free Radical Biology and Medicine, South American Group, 14–17 October 2013, Buenos Aires, Argentina; Applicant: Dr. Tamara Zaobornyj, Univ. of Buenos Aires.

In 2012–13, the IPC conducted a review of the merits, benefits and successes of the Latin-American Initiative. The committee found that the LAI has, since its inception in 2000, supported excellent workshops and conferences in Latin America, that it has benefitted physiologists at various career stages from graduate student to established researcher, and that the program is an important part of

APS' international mission. Nevertheless, and despite efforts by the IPC to help improve the visibility of the program, APS has consistently received a relatively small number of meritorious applications for the LAI. The IPC also found the geographic restriction of the LAI to be outdated. With these considerations in mind, the IPC has recommended that Council replace the LAI with a global program that would perpetuate the goals of the LAI, but also serve other underrepresented regions including Africa and India. It is expected that the new program, the APS International Opportunity Program, would provide six grants annually of up to \$7,500 each.

How can APS better serve its international members? How can APS serve in outreach to the international physiology community? If you have suggestions, ideas, or concerns, please contact Bryan Mackenzie, PhD, Chair of the APS International Physiology Committee, at [bryan.mackenzie@uc.edu](mailto:bryan.mackenzie@uc.edu).

- Council approved a recommendation to establish the International Development Program.

## Joint Program Committee



**Ronald Lynch, Chair**

### Experimental Biology 2013

The 2013 EB Meeting was held in Boston, April 20–24. The scientific and poster sessions were well-attended and overall enthusiasm for the meeting remains high. The other participating societies included: ASPET (pharmacology), ASN (nutrition), ASBMB (biochemistry), ASIP (pathology) & AAA (anatomy). The APS hosted five guest societies: The Microcirculatory Society (MCS), the Biomedical Engineering Society (BMES),

the American Federation for Medical Research (AFMR), the Society for Experimental Biology and Medicine (SEBM), and The Physiology Society (UK).

The meeting opened with several unique sessions on Saturday including the traditional Refresher Course—Immunology for the Physiologist. APS sponsored two unopposed Techniques and Technology in Physiology Workshops on Saturday entitled: "Rodent Experimentation and Bioinformatics," and "Modeling 101: How to Use Your Office Computer for Discovering/Modeling Physiological Networks of Your Favorite Genes." Also on Saturday, The Walter B. Cannon Memorial Award Lecture was presented by Michael Joyner, Mayo Clinic.

The Henry Pickering Bowditch Memorial Award Lecture was presented by Johnathan Tune, Indiana Univ. School of Medicine. During the week, 12 section-sponsored Distinguished Lectures were presented. APS also sponsored four Cross-Sectional Symposia: Emerging Concepts in Understanding Mechanisms of Diabetes; Emerging Concepts in AMPK Function; Recent Advances in Understanding Mechanisms Regulating Breathing During Exercise; and Tissue Engineering of Epithelial Organs: Applications to Physiology and Disease.

The APS President's Symposium Series (formerly the Physiology InFocus program) was organized by APS President Susan Barman and focused on the theme "From Animals to Human Models of Disease." The program consisted of three symposia and one lecture which included "Eating Disorders; Lessons from New Animal Models of Cystic Fibrosis;" and "Animal Models of the Irritable Bowel Syndrome: Basic and Translational Implications." The Nobel Prize in Physiology or Medicine Lecture was presented by Linda Buck, Fred Hutchinson Cancer Research Center.

There were ~1,000 more paid scientific registrants in attendance compared to the EB12 meeting, including 1,673 in the High School Student/Teacher and Undergraduate Student categories, an increase of about 100 from 2012. However, there were 85 less exhibitors continuing a trend of fewer companies paying to exhibit at EB meetings.

APS programmed 356 sessions in total: 215 poster sessions, 70 symposia, 46 featured topics, 17 lectures, two workshops, one refresher course, two awards sessions, and three special sessions. The programming continued to be organized using the Clustering of Sectional Programs for the third year.

## Experimental Biology 2014

The JPC met to begin organizing EB 2014 (April 26-30, 2014) in San Diego, CA. The JPC began scheduling rooms by day and time for the platform sessions, and, at the same time, tried to minimize scientific overlap. The number of APS posters programmed for Wednesday will be maintained lower than other days to optimize the time provided for individual poster discussion.

Two Techniques and Technology workshops will be scheduled on the first day of EB 2014; "Computational Modeling" and "Translation of Cardiovascular Endpoints across Species." Both workshops will feature a dedicated webpage with detailed information and links to additional resources.

*The President's Symposium Series—Multiscale Physiology: Linking Cellular and Molecular Insights to the Health of Organisms and Populations*—will feature a series of three symposia and a Nobel Lecture including "Early Life Origins of Adult Disease;" "Life at Extremes: Adaptations to Diverse Challenges to Normal Homeostasis;" "Physiological Relevance of the Intestinal Microbiome: Moving Beyond the Gut;" and a Nobel Lecture in Physiology or Medicine featuring Bruce Beutler, Univ. of Texas Southwestern Medical Center.

As is customary, the meeting will also feature sessions organized by the APS Publications, Careers in Physiology, Science Policy, Women in Physiology, Trainee Advisory, Physiologists in Industry and Education Committees.

- Council accepted the report of the Joint Program Committee.

## Membership Committee Report



**Robert W. Brock, Chair**

The Committee reviewed and revised its charge to better reflect the direction and function of the Committee as it serves the Society. Not only will the Committee continue to provide recommendations for member recruitment, retention and benefits, but it will also play a more active role in engaging members of the Society.

The Committee will continue to leverage the key priorities that emerged from the Society Strategic Plan to develop and recommend new strategies on issues related to membership recruitment, retention, and engagement. One of the initial steps taken in this regard is evaluating the feasibility of a Society-wide Fellowship Program recognizing member accomplishments and services to the Society. The Committee will also continue evaluating and proposing new ways to target specific membership subgroups including trainee, women, minority, nonacademic and international scientists. Other potential avenues for consideration include engaging groups more directly into meeting programs via symposia, as well as inclusion with the governance of individual sections/committees.

Finally, the Committee will continue to work to identify additional tangible benefits specifically for APS members.

- Council approved the implementation of the revised Committee Charge.

## The John F. Perkins Committee



**Esther E. Dupont-Versteegden, Chair**

The John F. Perkins, Jr. Memorial Award for International Physiologists promotes cultural exchange and scientific collaborations by providing supplementary aid to families of foreign scientists working for a minimum of three months in the US. In this way, young scientists are able to bring their families and, thus, make full use of the cultural exchange, as well as the scientific benefits associated with an international collaboration. This award is intended to support family visits to the US for postdoctoral

fellows and junior faculty from overseas. Application for the Perkins Award must be made jointly by the host, who must be an APS member, and the visiting scientist. The recipient receives funds generally not exceeding \$5,000.

Applications for the Award are accepted in the spring and fall, with application deadlines of April 15 and October 15. For the April 2012 deadline, the Committee received two



applications, and funded one. The recipient was Andras Garami; the host member is Andrej A. Romanovsky, St. Joseph's Hospital and Medical Center. For the October 2012 deadline, the Committee received ten applications, and funded four. The recipients are Masaki Kajimoto, host member is Michael A. Portman, Seattle Children's Research Institute; Shihan Wang, host member is Virend K. Somers, Mayo Clinic; Kyungjoon Lim, host member is Irving H. Zucker, Univ. of Nebraska Medical Center; and Lonnie Petersen, host member is Peter Norsk, Univ. Space Research Assoc.

- Council approved the Perkins Committee report.

## Physiologists in Industry



**Kelly R. Pitts, Chair**

### EB2013 PIC Symposium

The 2013 symposium, entitled "Nrf2 Signal Pathway in Human Diseases and as Novel Therapeutics" was chaired by Eugene W. Shek, and Ira J. Smith. Feedback from PIC attendees, as well as others, indicates that the topic was well-received.

### EB2013 Novel Disease Awards

The Novel Disease Award recognizes one postdoctoral and one pre-doctoral trainee who submit the best abstracts describing a disease model at Experimental Biology. While the model may be cellular or in vivo, the applicant must clearly emphasize the novelty of the model and the potential utility of the system for future research related to a disease process. Applicants do not have to be APS members and there are no restrictions on how the award is spent. Awardees can only receive the Novel Disease Model Award once as a postdoctoral fellow and once as a pre-doctoral student. Awardees are recognized at the APS Business Meeting. The PIC Novel Disease Model Award is sponsored by Plato BioPharma, Inc., a world leader in in vivo model development and execution. The award is \$500 for the pre-doctoral student and \$800 for the postdoctoral fellow. The awardees are Katrin Hollinger of Iowa State Univ. (pre-doctoral) and Catherine Clark, of Cornell Univ. (post-doctoral).

### Physiologists in Industry Committee Mixer

The Annual Physiologists in Industry Committee Mixer is traditionally a great opportunity to network with industry and academic APS members alike. It is designed to attract trainees and engage them in discussion about careers, research, and opportunities in industry positions. The 13th annual mixer was held Sunday, April 21 at the Renaissance Boston Waterfront Hotel. The mixer attracted ~50 individuals across all levels of training.

### EB2013 PIC Symposium

This symposium will focus on NO, CO and H<sub>2</sub>S: Toxic

Gases, Gasotransmitters and Therapeutic Targets. The session is being coordinated and chaired by Ken Olson and Catherine Clark. Olson is member of the Committee, and Clark is the 2013 Novel Disease Model Award recipient at the postdoctoral level.

- Council approved the Physiologists in Industry Committee report.

## Porter Physiology Development and Minority Affairs Committee



**Dexter L. Lee, Chair**

The goal of the Porter Physiology Development Program is to encourage diversity among students pursuing full-time studies toward the PhD in the physiological sciences and to encourage their participation in the American Physiological Society. The program provides one- two-year full-time graduate fellowships. The program is open to under-represented ethnic minority applicants who are citizens or permanent residents of the United States or its territories.

Fellows are expected to be/become APS members, participate in EB, complete specific professional development activities, and participate in K-12 outreach. Since 1967 the program has provided more than 228 fellowships to 111 trainees.

### 2012-2013 Porter Physiology Fellowship Program

In 2011-2012, the program provided funding for eight fellows. One fellow took a leave of absence beginning in December 2012, bringing the number of Fellows to seven.

### 2013-2014 Porter Fellowships: New and Renewal Applications

A total of nine new and five renewal applications were submitted for the January 15 deadline and reviewed by the Committee. The stipend paid to the Porter Fellows for 2013-2014 will again be \$28,300, consistent with the NIH scale. The Porter Fund allowed for a total of eight awards, as recommended by the Committee, for the 2013-2014 Fellowship period.

### The Porter Physiology Development Fund (Financial Status)

The Committee expresses its sincere appreciation for the continued support of the William Townsend Porter Foundation, the Pitts Family Foundation, APS member contributions, and the APS Council that makes these fellowships possible.

### Porter Facebook Fan Page

In 2011, Heidy Contreras launched a Facebook fan page for current and past Porter Fellows to facilitate networking among minority physiologists. Contreras, fellow Porter Committee member, Keisa Mathis, and APS staff are posting two to three times monthly. The group currently has 22 members (not including staff).



## Minority Travel Fellows Program

### 2012-2013 Travel Awards

The Porter Committee reviewed and recommended award recipients for Minority Travel Fellowships to attend two APS meetings and conferences in 2012. Two travel fellows received funding to attend the APS Conference, "Autonomic Regulation of Cardiovascular Function in Health and Disease," from July 7-10, 2012 in Omaha, NE. Four travel fellows received awards to attend the APS Intersociety Meeting, "Integrative Biology of Exercise," from October 10-13, 2012 in Westminster, CO. The Committee selected 30 Travel Fellows to attend EB 2013 from April 20-24 in Boston, MA. Again this year, the Committee was pleased that former Porter Fellows and past Travel Fellows volunteered to be mentors for the younger Travel Fellows.

### 2013 Porter Reception

As in the past, the Committee held a reception for Travel Fellows, their meeting mentors, and past and current Porter and Travel Fellows. This reception builds stronger connections between minority students and the larger community of APS scientists, especially other minority scientists. The Porter reception again this year was extremely successful.

### 2013 Travel Fellows Luncheon

The Travel Fellows Luncheon was held on Wednesday of the EB meeting. The Fellows heard from keynote speaker, Dr. Eric Floyd, Vice President of Regulatory Affairs and Quality Assurance at Lundbeck A/S. Floyd's talk, "Making the Transition from Academia into Industry: Crossing the Divide" highlighted the differences between academia and industry and provided advice on how to prepare for a transition. His talk provided a personal perspective on the positives and negatives of both career tracks and reinforced the fact that the skills the students are gaining now are transferable.

### Program Evaluation

Similar to the Porter Fellowship evaluation, the Education Office staff, with support from NIDDK, has evaluated data from a survey of past Travel Fellows. This survey, conducted every four to five years, provides information on the career development of Travel Fellows, their involvement in physiology and in APS activities, and their perspectives on how the fellowship contributed to their career development. A poster presentation was given at the EB 2013 meeting.

### Grant development

The APS Minority Travel Fellows program has been generously supported by an R13 grant from NIDDK since 1987. Funding ended on June 30, 2013.

### Annual Biomedical Research Conference for Minority Students (ABRCMS)

The APS exhibited at the November 2012 meeting in Anaheim, CA to promote undergraduate programs, graduate study in physiology and the APS programs for minority students. The APS was pleased to again provide \$2,500 for cash awards for the most outstanding undergraduate presentations in physiology research. Twenty undergraduate students received APS-sponsored awards for the best oral and poster presentations in the physiological sciences. Students also received a complimentary one-year print subscription to the APS journal, *Physiology*, and an APS "Life, Logic, Study"

shirt. Awardees were added to the APS Minority Physiologists and APS Trainee Listservs.

### Society for the Advancement of Chicanos & Native Americans in Science (SACNAS) National Conference 2012 APS Exhibit

In 2012, the theme for the SACNAS annual conference was "Science, Technology, and Diversity for a Healthy World." The conference took place from October 11-14, in Seattle, WA. Over 3,700 attendees participated in the conference: 1,497 undergraduates, 88 post baccalaureate students, 556 graduate students, 104 postdocs, and 1,192 professionals. More than 1,200 posters and nearly 70 oral presentations were given at this national conference. There were also more than 300 exhibitors.

### K-12 Minority Outreach Fellows Program

Due to the ending of the NIDDK grant, the program did not support any Fellows in 2012-2013. However, thanks to Council approving funds to support Fellows at the 2012 meeting, the program did accept applications this year. Three students submitted applications for this fellowship. The two awardees selected are Raisa Loucil-Alicea, Ponce School of Medicine and Health Sciences, Dept. of Biochemistry, and Abigail Ruiz-Rivera, Ponce School of Medicine, Dept. of Microbiology.

These fellows received training at the 2013 EB meeting and will do outreach activities throughout the coming year.

### "Be Counted" Campaign

The Porter Committee continued the campaign in 2013 and at the fall meeting reviewed the efficacy of the campaigns and discussed means to maintain momentum. Support and enthusiasm of APS Council and Society membership remains genuine for the campaign and for all APS programs to promote diversity. However, many APS members, irrespective of demographic, have not renewed their membership profile. Interestingly, the Committee learned that many APS members had not renewed their information regarding academic ranking or specialty section affiliation in many years. Another issue and challenge that still must be addressed is apprehension on the part of some individuals of underrepresented minority groups to "self-identify" their race and/or ethnicity. It is important to note that such apprehension is wide-spread and not unique among only APS membership. The Committee plans to continue the BE COUNTED campaign through 2014.

- Council approved in concept for the development of a new award, the A. Clifford Barger Underrepresented Minority Mentorship Award, to honor individuals who demonstrate outstanding leadership, guidance, and mentorship to increase the participation of underrepresented minority groups in physiological sciences

## Publications Committee Report



Hershel Raff, Chair

### Impact Factor

The 2011 Journal Impact Factors (IF) held steady for all journals. *PRV*, once again ranked first in the field of physiology, with an IF of 30.174 and *Physiology* ranked third, with an IF of 7.953.

### Journal Statistics

**Accepted manuscripts.** Time from manuscript submission to first decision for 2012 averages 22 days compared to 24 days in 2011. The average rejection rate for all journals was 58% in 2012, compared to

55% in 2011.

**Manuscript submissions.** Manuscript submissions in 2012 decreased by 10% vs. 2011 across all journals and all manuscript types. This figure is much higher than the 3% decrease in 2011 vs. 2010 and the same as in 2009 vs. 2008. Other societies, including FASEB societies, have experienced a decrease in submissions.

**Articles and pages published.** The number of regular research articles published increased by 3% from 3,046 in 2011 to 3,140 in 2012; published invited articles decreased by 6% from 547 in 2011 to 514 in 2012. The number of manuscripts in *AiPS* decreased 11% from 3,496 in 2011 to 3,096 in 2012. Journal pages published increased by 7% compared to 2011. The number of published pages was 5% under the 2012 page cap.

**Supplemental data.** A total of 197 data supplements were published in 2012, 76 of which were video clips. This represents a 68% decrease in total data supplements, the number of video supplements decreased by 5%.

**AuthorChoice.** There were 31 requests for AuthorChoice in 2012 which represents less than 1% of all accepted articles during that period.

**Color figures.** In 2012, 5,660 color figures were published in APS journals of which 3,708 were published by APS member authors, at no charge to them.

**Podcasts.** *AJP-Heart* released 27 podcasts and *AJP-Renal* released 13 podcasts in 2012 highlighting published articles.

### Press Releases and Social Media

In 2011, 44 press releases were distributed. Of these, 45% were related to APS journal findings. APS journal findings continue to be picked up by top-tier mainstream media.

### Publications Ethics

The number of ethical cases arising during peer review and production has increased significantly over the past few years. The overall total number of ethical cases that originated in 2012 was significantly fewer than the previous year; i.e. 158 cases, a decrease of 93 cases (37%) compared to 2011. The largest number of cases by category was figure manipulation (122 cases) followed by duplication of data (12 cases).

The Publications and the Education Departments jointly submitted a successful application to the NSF for the development of modular course materials on ethics education in science and engineering. Additional collaborators on the

project are the Biomedical Engineering Society (BMES) and the Society of Biological Engineers (SBE). The grant is for \$400,000 awarded over a three year period.

### Book Program

**Comprehensive Physiology.** The first issue of *Comprehensive Physiology* was published in January 2011 and included all of the Handbook content, digitized ("Classic Content") and 25 new articles. As of January, 2013, 530 articles have been invited, of which 203 have been accepted, 15 are in review or revision and 179 have been published. The invited articles are from seven of the 13 sections, covering 12 topics; "topics" correspond to a volume of the published, print Handbook.

### Physiological Reports

A Selection Committee of six, plus ex officio members, was formed by the Societies in order to appoint an Editor in Chief for *Physiological Reports*. Wray, Liverpool, UK was appointed by the Selection Committee as Editor-in-Chief and Thomas Kleyman, Pittsburgh, was appointed as Deputy Editor-in-Chief. In 2013, Wray and Kleyman appointed four Associate Editors: Mrinalini (Meena) C. Rao, Dept. Physiology and Biophysics, Univ. of Illinois at Chicago; Julian RE Davis, Endocrine Sciences Research Group, Univ. of Manchester; Larissa A. Shimoda, Pulmonary and Critical Care Medicine, John Hopkins Univ.; Gareth Leng, Centre for Integrative Physiology, Univ. of Edinburgh. The Associate Editors have recommended 30 Editorial Board Members each and as of March 2013, there are 57 Editorial Board Members.

### Physiology in Medicine

In a May 2011 letter to the APS Editors-in-Chief from Publications Committee Chair, Hershel Raff encouraged the Editors and their Associate Editors "to solicit review articles that discuss basic physiology as it relates to the pathophysiology or treatment of disease for publication in your individual APS journals." Since January 2013, 10 PIM articles have been commissioned; three from *AJP-GI&L*, two from *JAPPL*, and five from *AJP-Lung*.

### APS 125th Anniversary Collection

In recognition of the Society's 125th anniversary, and in acknowledgment of the critical role played by the APS journals in the Society's legacy, TRSI, which produces the Journal Citation Reports database, including journal Impact Factors, was asked to identify the most highly cited articles since 1900. The Society then organized a permanently free collection of the top ten cited articles for each of our journals for the following time periods: 1900-1924; 1925-1949; 1950-1959; 1960-1969; 1970-1979; 1980-1989; 1990-1999; and 2000-2011. The collection can be found at: [www.physiology.org/site/125anniversary](http://www.physiology.org/site/125anniversary).

- Council approved the recommendation to permit submissions of manuscripts to the *Journal of Neurophysiology* that has been previously posted to a preprint server, such as ArXiv.

## Section Advisory Committee



**Ann Schreihöfer, Chair**

Below are summarized SAC's primary activities over the past year.

### Awards

Several new awards were established. In the CV section the Kaley Award was established to honor long time member Gabor (Gabe) Kaley. The first session, chaired by Irv Zucker will be at the EB 2014 meeting and will solicit abstract submissions. The EEP section continues to grow and has added two new trainee awards (one postdoctoral and one predoctoral). Some sections are judging and giving awards at poster sessions during the EB meeting. The CEP section hosted an on-site undergraduate poster session for the second year with an undergraduate award. The CNS section posted recognition cards at section winners' posters and provided lists to steering committee members to visit them. Several sections are having trainee award winners chair and organize future EB sessions. The GIL section gave discounted banquet tickets to all award applicants to encourage attendance. Application numbers and quality were increased for most sections; some cited delaying the submission deadline after abstract submissions and more aggressive advertising.

### Engaging members in your section operations

Most sections use biannual newsletters to communicate key information to their members, with some using both hardcopy and on-line versions and others going strictly on-line at the APS website. Most sections provide a newsletter in the fall to advertise submissions for the EB meeting and in the spring to highlight upcoming EB events. The CaMP section will send out the spring newsletter after the EB meeting to highlight meeting events and best reviewers for *AJP Cell*. ListServes and occasional emails are also utilized, and a few sections such as NCAR are using social media such as Facebook. Several sections have expanded their steering committees, or enlisted section members to help function as judges for section awards to spread the workload and engage more members. Some sections have expanded their steering committees to maintain international representation. All sections appear to be actively recruiting junior members to participate.

### Section Finances

Some sections have been very successful in soliciting donations from industry and section members for section activities, whereas others rely on APS funds (e.g. ancillary funds for interactions with Distinguished Lecturer). Several sec-

tions have expressed a decline in funding from industry sources. The Respiration section remains the only section to have been successful in obtaining new funds to participate in the APS matching fund program to support a trainee-oriented event. The expense of having banquets and dinners continues to increase. Several sections have expressed concerns particularly about the expense of on-site events. Some sections are close to running a deficit and are actively seeking new avenues of fund raising within the membership and outside the society. It was noted by several that a significantly higher proportion of personal donations comes from junior members relative to long-standing senior members. Several sections are considering publically acknowledging donations in their newsletters (with permission of donors). Many sections still express a lack of expertise in fundraising from companies and seek advice from the APS regarding approach, appropriate amounts, and understanding how to successfully attract short- or long-term donors. Several sections have expressed difficulty in participating in the APS matching funds program with daunting task of raising a large sum of money that would yield little in the short term where it is needed.

### Interaction with APS and other sections

Several sections have a long history of interacting with overlapping interests and members. Some work better in clustering programming and events, whereas others appear to work better by spreading these throughout the meeting. The cross-sectional programming has been very successful. Some sections, such as CNS and NCAR, host overlapping on-site receptions to allow members to attend both. Other sections such as Renal and CaMPS hosted off-site dinners on consecutive nights to facilitate more participation. The APS staff works with the sections to facilitate the meeting events and programming. With recent evolutions of how section banquets are organized and run, the APS staff will be working with SAC to lay out a time line for coordinating efforts.

### Programming for the section

Several comments were made about the small room sizes at the Boston venue for EB 2013, with overcrowded rooms at many of the sessions. Several sections expressed improved coordination of programming after relaxing the clustering of program by sections, such as RESP, CNS, and NCAR. Other sections, such as Renal, preferred to continue clustering their programming and coordinate with sections such as WEH, CAMP and the Epithelial Transport Group. The GIL section continued to feel clustered toward the end of the meeting, reducing their ability to interact with other sections and have their sessions optimally attended. It was expressed that smaller sections may have a more difficult time maintaining a critical mass on the last day of the meeting. Larger sections such as CV and RESP program on all days of the meeting.

To ensure diversity of speakers at the EB meeting, CV is instituting a new policy of not having invited speakers from the EB meeting also give a talk at the next EB meeting. Several sections are holding trainee only sessions that are either presented as featured topics (CEP and NCAR) or special poster sessions (like Data Diuresis for WEH, Highlight breakfast for RESP, a Poster Symposium for GIL, and Posters with Professors for Renal). Several sections were involved in APS meetings outside of the EB meeting. EEP participated in



the planning of an Integrative Biology of Exercise meeting in Denver, CO in October 2012. NCAR participated in the Autonomic Regulation of Cardiovascular Function in Health and Disease in Omaha, NE in July 2012, and participated in the FASEB Summer conference Neural Mechanisms in Cardiovascular Regulation in Oregon, July, 2013.

## **Recruitment and retention of section membership and leadership roles in the APS and section**

The membership numbers by section have been mixed with some losing members (mostly regular and emeritus members), some remaining stable, and others growing. The sections received contact information for members who have not renewed their dues. Some sections are contacting these members to find out why they dropped membership and to encourage renewal of membership with APS. Most sections are actively engaging members to nominate for APS committees and working to help produce effective applications. During the fall SAC meeting, SAC viewed the data regarding APS committee memberships by section, numbers of applications for each committee and by each section, and discussed strategies for helping members interested in serving on APS committees to complete a competitive application.

## **Interactions with publications representative**

Several sections also maintain strong ties with APS journals. *AJP Regulatory* works consistently with EM, CEP, EEP, and NCAR to publish meeting highlights and reviews from section members. CaMP has maintained strong ties with *AJP Cell* by encouraging members to publish in the journal and having the journal publish articles from lectures at the EB meeting. Similar interactions are reported by CV section with *AJP Heart* and RESP section with *AJP Lung*, and EEP section with *Journal of Applied Physiology*. Some sections, such as GIL, have made their journal liaison—the *AJP GIL* editor-in-chief—a full voting member of their steering section. Interactions occur directly through the editor-in-chief or by interactions with associate editors of the journals. The *Journal of Neurophysiology* has not had strong ties with APS sections or the EB meeting in recent past. It is hoped that a new incoming editor may facilitate such interactions. In addition, the launch of the new APS on-line journal *Physiological Reports* will be another venue for publications of members' works.

## **Engaging trainee, industry, and international members with steering committee**

A noted strength of the APS is its commitment to involving and mentoring trainees, which happens most effectively at the section level. Most sections reported EB meeting sessions targeted for trainees, such as featured topics and poster sessions. Trainees are given the opportunity to plan and chair such sessions. Many sections are engaging previous award winners to actively participate in upcoming EB sessions. Awards targeted to trainees continue to be on the rise, and application numbers and quality appear to be growing stronger for many sections. Several sections have trainee committees or subcommittees as part of their steering committee in addition to a Trainee Advisory Committee (TAC) representative. The CEP trainee subcommittee organized its first annual CEP section Trainee Mixer before the section dinner at the EB 2013 meeting. CaMP trainees were invited to attend a breakfast with the Hugh Davson Distinguished Lecturer. Several sections are now including a trainee sec-

tion in their newsletters, which is written by trainees (TAC reps) and targeted toward issues of interest to trainees. Some sections are currently looking for new trainee representatives for their section (GIL, CNS, TEACH).

Many sections are increasing International member participation either by establishing an International member position on their steering committee or informally working to have international members on their steering committees. Several sections are working to best define the roles and goals for their International steering committee members. Interactions with industry members have been mixed. The EM section is chaired by Josh Anthony, from the Campbell Soup Company, and many sections have members from industry as part of their steering committees. These members are encouraged to participate in programming, mentoring of trainees for industry-related careers, and fundraising in the world of industry. Other sections do not currently have members from industry.

- Council accepted the Section Advisory Committee Report.

## **Science Policy Committee**



**Kevin Kregel, Chair**

*John Chatham completed his term as committee chair at Experimental Biology 2013 so the activities described below took place under his leadership.*

In 2012-2013, the SPC committee's activities included advocacy for federal funding of research, development of a peer review resource guide, and fostering communication between the APS and federal funding agencies. We also provided comments to the National Institutes of Health concerning the future of the biomedical workforce.

## **Advocacy**

*APS Early Career Advocacy Fellows:* In 2013 the SPC initiated an Early Career Advocacy Fellow Program with the goal of increasing the involvement of early career investigators in advocacy activities. The committee reviewed the applications and selected three fellows for the first year of the program. The awardees are Mitsi Blount, Emory Univ., TanYa Gwathmey, Wake Forest Univ. School of Medicine, and Jessica Meir, Harvard Medical School. The Fellows attended the committee's meeting at EB, as well as an orientation luncheon where they had the opportunity to practice advocacy communication. The Fellows will join the committee at our fall 2013 meeting and visit congressional offices on Capitol Hill.

## **EB 2013 symposium**

The SPC committee sponsored a symposium at EB 2013 entitled "How to be a science advocate in your own backyard." The session featured speakers who had experience with science advocacy in many different forums, including grassroots advocacy for trainees, participation with scientific societies,



and collaborations with academic government relations officials. The session was very well-attended, and a recording is available online: <http://www.the-aps.org/ScienceAdvocacySymposium> (Note: opens as QuickTime Video).

## APS Leadership visits Capitol Hill with FASEB

On March 19, 2013, I joined APS President Sue Barman, FASEB Board Member Hannah Carey, and SPC Chair John Chatham in FASEB's annual Capitol Hill Day. Our main focus was to inform congressional offices about the negative impacts of sequestration on biomedical research.

## Local activities

During the summer of 2012, the SPC asked committee members and the APS leadership to submit letters in support of research funding to their local newspapers. These letters called on Congress to avoid the threat of sequestration and to recognize the importance of federal funding for medical research. Three such letters were published by newspapers around the US.

The committee has also encouraged its members to plan local meetings with their legislators. SPC members Gina Yosten and Henry Forman scheduled meetings with their Members of Congress, and Hannah Carey (APS representative to the FASEB Board) participated in FASEB's efforts to meet with candidates in Wisconsin during the 2012 election season.

## Chapter Advocacy Partnerships

In 2013, the ACE and Science Policy Committees jointly launched a Chapter Advocacy Outreach Program to provide speakers to three state chapter meetings. Kevin Kregel and Bill Talman were selected to make presentations at the Arizona and Nebraska Physiological Society's meetings in October and November.

## Peer Review Resource

The SPC believes that it is critical for APS members to be involved as peer reviewers for funding agencies (private and government) and journals. To encourage members to become involved at all career stages, members of the committee worked with APS staff to draft "Peer Review 101: Advice for Trainees, Junior Faculty and Mentors." This document is available as an online resource for APS members. <http://the-aps.org/PeerReview101>.

## Communicating with Funding Agencies

On October 2, 2012, members of the SPC met with NHLBI Director Gary Gibbons, as well as other members of the NHLBI leadership. Topics included Dr. Gibbons' vision for the NHLBI, plans to balance basic and translational research, challenges to maintaining investigator-initiated research, and diversity in the biomedical research workforce. Following this meeting with Dr. Gibbons, NHLBI submitted an article that was published *The Physiologist*. <http://the-aps.org/mm/SciencePolicy/Agency-Policy/Meeting-with-NHLBI-Director.html>

The SPC arranged a session at EB 2013 entitled "Program and Policy Updates from the NIH and NSF" featuring NINDS Director Story Landis, NIDDK Director Griffin Rodgers, and NSF Assistant Director for Biological Sciences John Wingfield. Each speaker outlined challenges facing their programs given the FY 2013 cuts due to sequestration.

The presentations are available on the APS website: <http://the-aps.org/mm/SciencePolicy/Funding/Funding-Agency-Symposium>.

On July 9, 2013 a series of meetings between the APS leadership and NIH officials took place. The primary focus was on the current funding situation, but each meeting highlighted issues of shared interest between the NIH and APS.

## Science Policy News

In June 2012, the APS Science Policy Office initiated a new publication, *Science Policy News* (SP News). This is a monthly electronic bulletin with a strong focus on advocacy oriented information. APS members who would like to subscribe can send an email request to [sciencepolicy@the-aps.org](mailto:sciencepolicy@the-aps.org).

## Leadership interactions with FASEB

The APS is currently represented on the FASEB Board of Directors by Hannah Carey. John Chatham continues to serve as the APS representative to the FASEB Science Policy Committee (SPC), and I am continuing my service as the Chair of FASEB's Animals in Research and Education Committee.

The APS is represented on a number of FASEB SPC subcommittees by the following individuals: John Chatham, JR Haywood, Bill Talman, Tim Musch, Bill Yates, Erik Henriksen, R. Brooks Robey, Virginia Miller, Carrie Northcott, Michael Portman, Zhongjie Sun, Mark Donowitz, Gina Yosten, and Phil Clifford.

- Council accepted the Science Policy Committee Report.

## Trainee Advisory Committee



Jennifer Sasser, Chair

## TAC Trainee Survey

At the fall 2012 TAC meeting, the Committee began planning for the 2013 survey, including discussion of topics and objectives. The design of the survey will be completed this fall, and the 2013 survey will be distributed in November-December 2013. Special efforts will be made to reach out to HBCUs and HHCUs and to undergraduate physiology departments. The survey will include few questions from the previous surveys so that we can continue to track responses over time.

## EB Symposia

**EB13:** The 2013 TAC Symposium was entitled, "Translational Research: From Bench to Bedside." It included presentations to define translational research, discuss the opportunities available through the National Center for Advancing Translational Sciences (NCAT), and provide examples of laboratories that have been successful in establishing a translational research program. The presentations were followed by an open forum discussion panel with the invited speakers, as well as several early career investiga-

tors who have recently incorporated translational science into their newly established laboratories. Attendance at this Wednesday morning symposium was excellent and the speakers received high ratings from the attendees.

**EB14:** In 2014 the TAC symposium will focus on how to review manuscripts for scientific journals. This symposium is co-sponsored by the APS Publications Committee, and these presentations will address APS Strategic Plan Priority: Develop strategies to strengthen the Society's publications in a changing world. The session will include talks on how to become a reviewer; what are the responsibilities of a reviewer; and what is included in a review.

**Future Experimental Biology Planning:** As part of ongoing strategic planning discussions, TAC has discussed possible new session types at EB. The TAC plans to discuss these ideas with JPC and SAC to develop specific recommendations for future EB meetings. These include Trainee Cross-Sectional Symposia and Early Morning Career Development Sessions.

### APS Trainee Facebook Site and Twitter

The APS Trainee Facebook page currently has 347 Facebook "Likes," and the twitter account has 78 followers. Postings come from staff, TAC members, and APS Twitter feeds, providing regular communication to the trainee fans from the APS and the TAC. At the fall meeting, TAC establishes monthly topics relevant to trainees and assigns members responsible for posting materials.

### Dale J. Benos Early Career Professional Service Award

The TAC received 17 completed applications for a 2013 award. The Committee selected Erica A. Wehrwein, Assistant Professor, Department of Physiology, Michigan State Univ. as the 2013 awardee. Wehrwein has a remarkable level of teaching, service and mentoring with students at the graduate/professional, undergraduate and K-12 levels, as well as with members of her community. She has won many awards for both her teaching and research throughout her career to date. This service was visible during her time as a graduate student and postdoctoral fellow and continues now as a faculty member.

The TAC is planning to follow up with past award winners to determine whether they have continued their service activities and to ask about the impacts of receiving the award on their careers and professional activities.

This spring, the TAC unanimously voted to change the eligibility requirements for the award for previous TAC members in order to avoid the appearance of conflict of interest. TAC members have never been eligible for the award during the term of service on TAC, and now members will not be eligible until two years after their TAC service is completed.

### Outreach to Undergraduates

TAC members continue to use social media tools (Facebook and Twitter) along with the APS website and newsletter to engage both undergraduate students and physiology trainees. TAC business cards were distributed again at EB 2013 to increase awareness of these social media websites. TAC members attended the EB 2013 Undergraduate Poster Session and engaged many of the undergraduate students in discussions of their research, encouraged them to become APS members, and promoted the APS social media sites (Facebook, etc.).

### Undergraduate Focus Group

Because of the growing involvement of undergraduates in APS, the TAC feels it is important to have undergraduate input into TAC activities. At the 2012 APS Council meeting, it was suggested that summer undergraduate research fellows would be a good target group from whom to gain insights into the undergraduate population regarding their needs and their impressions of the APS and EB. A TAC subcommittee developed a list of questions, and a Focus Group meeting was held at EB2013 with five undergraduates who participated in APS Summer Research programs and attended the Undergraduate Orientation Session on Saturday afternoon.

### APS Graduate Student Ambassador Program

In recent years, there has been a significant increase in benefits and awards available to student members offered by the APS however, many student members (and their advisors) are not aware of these opportunities. Thus, the TAC seeks to recruit a dedicated group of graduate students to serve as Graduate Student Ambassadors (GSA). The GSAs will serve as liaisons between the APS (TAC and APS Chapters) and local undergraduate and graduate students. The primary goal of the GSAs is to increase the number of students becoming and maintaining active membership in APS, particularly underrepresented minority students, and increase students' awareness of the benefits of APS membership, including the many resources that the Society provides.

### Communication with Sections

Each TAC representative updated their Section activity information in 2012-13 and shared information with their Section Steering Committee. The most common trainee activities for Sections were research awards for trainees and junior faculty, discounted banquet tickets for trainees, involvement of junior faculty as symposia speakers, and e-media use. About two-thirds of the Sections have a trainee section in their newsletter and have trainees co-chair symposia or featured topics at EB, and some sections also include trainee-driven sessions at EB, trainee subcommittees within the section, and awards for undergraduate students.

- Council approved funding of \$1,000 for a breakfast meeting at EB2014 for all trainees who are members of the APS committees and Section Steering Committees with the members of TAC.

### Women in Physiology Committee



Angela J. Grippo, Chair

### Bodil Schmidt-Nielsen Distinguished Mentor and Scientist Award

Ten excellent nominations were received for the 2013 Bodil Schmidt-Nielsen Distinguished Mentor and Scientist award. The Women in Physiology (WIP) Committee selected Jerome E. Dempsey, Univ. of Wisconsin, Madison, as the awardee. At the award lecture and reception, Dempsey gave a talk on mentoring, entitled, "Mentoring

through Teamwork: Lessons Learned.” An article based on his lecture was published in the July issue of *The Physiologist*, and the multimedia presentation will be posted on the APS web site.

## **APS Professional Opportunity Awards: Caroline tum Suden/Frances Hellebrandt, Steven M. Horvath, Fleur L. Strand, and Gabor Kaley Awards**

The WIP Committee received 154 applications for the 2013 tum Suden Professional Opportunity Awards, which is 21% higher than the number of applications received in 2012. The Committee was able to fund 36 tum Suden Awards, two Horvath Awards (given to the top two underrepresented minority applicants), one Strand Award (given to the top applicant) and two Kaley Awards for a total of 41 awards (27% of applicant pool). The Kaley Awards will not be available in 2014; the funding will provide for a lecture instead, at the request of the family.

## **MentorNet Mentoring Program**

The Committee launched the APS MentorNet collaboration in October 2007. MentorNet continues to need both mentors and mentees from APS. The Committee continues to recruit students and mentors, and is making active efforts to spread the word about the benefits of MentorNet to APS members.

## **Experimental Biology Mentoring Workshop**

For EB 2013, the workshop was entitled, “The Changing Face of Tenure.” The workshop was held on Wednesday, April 24. The workshop was not as highly attended as in previous years and the Committee will investigate the reasons for the lower attendance at this workshop, in an attempt to remedy this in future years. However, attendees noted on their evaluation forms that the low attendance was due to timing, i.e. on the last day of EB and late in the afternoon, prior to travel.

For EB 2014, workshop organizers Caroline Appleyard and Maria Urso will co-chair a session on “Leadership Skills.” The workshop topics will include why are leadership skills important; how does one obtain leadership skills (at one’s institution or through a special program); and how does one demonstrate leadership skills on his/her CV.

## **Representation of Women in APS and Scientific Community Leadership**

One of the charges of the WIP Committee is to support advancement of women in APS and in the scientific community at large. The WIP Committee annually reviews the number of women serving on APS Committees and Section Steering Committees.

In reviewing the membership of the APS section advisory committee (SAC) and other Society committees, the Committee found that the representation of women on the APS committees continues to be very good. The WIP Committee commends the Committee on Committees for its ongoing attention to gender diversity when making committee appointments. The WIP Committee is also pleased to note that, in 2013-2014, the APS Council has four women members out of nine (45%) as well as women in both the Past President and President positions. Overall, six (50%) of the 12 elected members of Council are women. The Committee believes this continues to reflect the increasing role of women in the Society as a whole and especially in both Section and Committee leadership positions which provide important visibility and service opportunities.

## **Development of a Women’s Listserv/Facebook Page**

The WIP Committee has developed a Facebook page, which launched on June 10, 2013. The specific goals of this page are to share information that is relevant to the mission of the WIP Committee, including content on women in physiology and gender issues in science, promotion of physiology to early-career scientists, and mentoring. The direct link the page is the following: <https://www.facebook.com/pages/APS-Women-in-Physiology-Committee/163131533858252?fref=ts>.

The WIP Committee continues to work to promote women within the Society and the scientific community and to provide mentoring for early-career investigators and trainees. We look forward to additional involvement in new APS programs and activities, and we will strive to remain active instrumental in the implementation of the New Strategic Plan developed by Council. ❖

# Meetings & Congresses

*December 14-18*

**2013 American Society for Cell Biology Annual Meeting, New Orleans, LA.** Information: Internet: <http://www.ascb.org>.

**2014**

*January 29-31*

**2nd Immunogenicity and Immunotoxicity Conference, San Diego, CA.** Information: Internet: <https://www.gtcbio.com/conference/novel-immunotherapeutics-summit-overview>.

*March 13-15*

**The Power of Programming 2014 - International Conference on Developmental Origins of Adiposity and Long-Term Health, Munich, Germany.** Information: Email: [EarlyNutrition@med.imu.de](mailto:EarlyNutrition@med.imu.de); Internet: <http://munich2014.project-earlynutrition.eu/>.

*June 24-28*

**The International 22nd Puijo Symposium “Physical Exercise in Clinical Practise—Critical Appraisal of Randomized Controlled Trials,” Kuopio, Finland.** Information: Email: [saila.laaksonen@uef.fi](mailto:saila.laaksonen@uef.fi); Internet: <http://www.puijosymposium.org>.

*June 28-July 2*

**6th International Workshop on Advances in the Molecular Pharmacology and Therapeutics of Bone Disease, Oxford, UK.** Information: Internet: <http://www.oxfordbonepharm.org>.

*August 25-29*

**7th World Congress for Psychotherapy, Durban, South Africa.** Information: Janie Koeries, Paragon-Conventions, Milnerton Mall, Loxton Road, Milnerton, Cape Town, South Africa. Tel.: 021 552 8679; Email: [jkoeries@paragon-conventions.com](mailto:jkoeries@paragon-conventions.com); Internet: <http://www.wcp2014.com>.





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Physiology is the study of how the body works under normal conditions. We use physiology when we exercise, read, breathe, sleep, or do just about anything. Physiology is generally divided into ten major organ systems. Our latest website explains each one. Start your learning curve at **[www.PhysiologyInfo.org](http://www.PhysiologyInfo.org)**.

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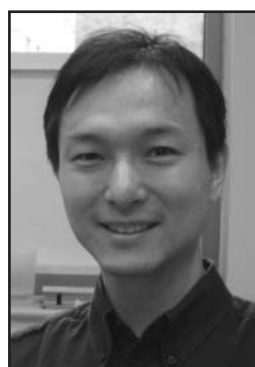


PHYSIOLOGY IN PERSPECTIVE:  
THE WALTER B. CANNON  
AWARD LECTURE (SUPPORTED  
BY THE SUCAMPO AG)

**James M. Anderson**  
NIH, Office of the Director

*"The Contribution of  
Paracellular Transport to  
Epithelial Homeostasis"*

SATURDAY, APRIL 26, 5:30 PM



HENRY PICKERING BOWDITCH  
AWARD LECTURE

**Kazuhiro Nakamura**  
Kyoto Univ.

*"Central Thermoregulatory  
System: A Mechanism that  
Defends Life from Various  
Environmental Stressors"*

SUNDAY, APRIL 27, 5:45 PM



CLAUDE BERNARD  
DISTINGUISHED LECTURESHIP  
OF THE APS TEACHING OF  
PHYSIOLOGY SECTION

**Robert G. Carroll**  
East Carolina Univ.

*"The Social Contract of  
Learning"*

SUNDAY, APRIL 27, 10:30 AM



HUGH DAVSON DISTINGUISHED  
LECTURESHIP OF THE APS  
CELL AND MOLECULAR  
PHYSIOLOGY SECTION

**Raymond A. Frizzell**  
Univ. of Pittsburgh

*"Wrestling with CFTR  
Biogenesis: SUMO Enters the  
Ring"*

SUNDAY, APRIL 27, 2:00 PM



ERNEST H. STARLING  
DISTINGUISHED LECTURESHIP  
OF THE APS WATER AND  
ELECTROLYTE HOMEOSTASIS  
SECTION

**Howard Jacob**  
Medical College of Wisconsin

*"Testing Human Genes for  
Hypertension and Renal  
Disease in Experimental  
Models"*

SUNDAY, APRIL 27, 4:15 PM



CARL LUDWIG DISTINGUISHED  
LECTURESHIP OF THE APS  
NEURAL CONTROL AND  
AUTONOMIC REGULATION  
SECTION

**Mohan Raizada**  
Univ. of Florida Med. College

*"Dysfunctional Brain-bone  
Marrow Communication in  
Hypertension"*

MONDAY, APRIL 28, 8:00 AM



SOLOMON A. BERSON  
DISTINGUISHED LECTURESHIP  
OF THE APS ENDOCRINOLOGY  
AND METABOLISM SECTION

**Carol F. Elias**  
Univ. of Michigan

*"Energy for Reproduction:  
How the Brain Reads Fat  
Stor(i)es"*

MONDAY, APRIL 28, 10:30 AM



EDWARD F. ADOLPH  
DISTINGUISHED LECTURESHIP  
OF THE APS ENVIRONMENTAL  
AND EXERCISE PHYSIOLOGY  
SECTION

**Malcolm Jackson**  
Univ. of Liverpool

*"30 Years of Chasing  
Radicals in Muscle: Redox  
Regulation of Muscle  
Adaptations to Contractile  
Activity and Aging"*

MONDAY, APRIL 28, 2:00 PM

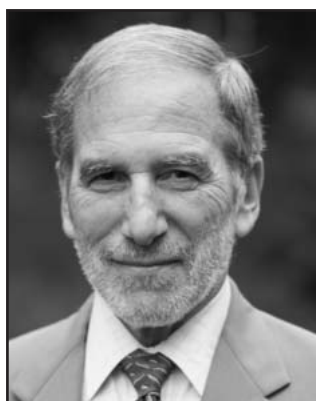


CARL W. GOTTSCHALK  
DISTINGUISHED LECTURESHIP OF  
THE APS RENAL SECTION

**Susan Wall**  
Emory Univ. School of Med.

*"The Role of Pendrin in the  
Pressor Response to  
Aldosterone"*

MONDAY, APRIL 28, 3:15 PM



JOSEPH ERLANGER  
DISTINGUISHED LECTURESHIP  
OF THE APS CENTRAL  
NERVOUS SYSTEM SECTION

**Barry Levin**  
New Jersey Med. Sch. VA  
Med. Ctr., East Orange

*"Metabolic Sensing Neurons:  
Multi-modal Regulators of  
Energy and Glucose  
Homeostasis"*

MONDAY, APRIL 28, 3:15 PM



JULIUS H. COMROE, JR.  
DISTINGUISHED LECTURESHIP  
OF THE APS RESPIRATION  
SECTION

**Gordon S. Mitchell**  
Univ. of Wisconsin School of  
Veterinary Medicine

*"Learning to Breathe:  
Plasticity in Respiratory  
Motor Control"*

TUESDAY, APRIL 29, 10:30 AM



HORACE W. DAVENPORT  
DISTINGUISHED LECTURESHIP  
OF THE APS  
GASTROINTESTINAL & LIVER  
SECTION

**Fayez Ghishan**  
Univ. of Arizona College of  
Med.

*"Recent Advances in  
Inflammatory Bowel  
Diseases: Bench to Bedside"*

TUESDAY, APRIL 29, 2:00 PM



ROBERT M. BERNE  
DISTINGUISHED LECTURESHIP  
OF THE APS CARDIOVASCULAR  
SECTION

**Virend Somers**  
Mayo Clinic

*"Sleep, Death and the Heart"*

TUESDAY, APRIL 29, 2:00 PM

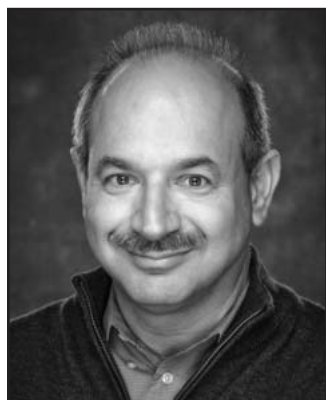


AUGUST KROGH  
DISTINGUISHED LECTURESHIP  
OF THE APS COMPARATIVE &  
EVOLUTIONARY PHYSIOLOGY  
SECTION

**Hannah V. Carey**  
Univ. of Wisconsin School of  
Vet. Med., Madison

*"Hibernation, Guts and  
Microbes: Bringing Symbiosis  
into Animal Physiology"*

TUESDAY, APRIL 29, 3:15 PM



APS PRESIDENT'S SYMPOSIA  
NOBEL PRIZE IN PHYSIOLOGY IN MEDICINE LECTURE

**Bruce Beutler**  
Univ. of Texas Southwestern Medical Center

*"Monitored Mutagenesis of the Mouse Genome to Identify  
Proteins with Essential Immune Functions"*

WEDNESDAY, APRIL 30, 4:45 PM

## Foskett Named Chair at Penn

J. Kevin Foskett, the Isaac Ott Professor of Physiology in the Perelman School of Medicine, Univ. of Pennsylvania, has been named the School's Chair of the Department of Physiology. Foskett, has served as Vice Chairman of the Department since 2008, is a productive scientist whose laboratory has significantly advanced our understanding of the mechanisms of ion permeation across cell membranes and intracellular signaling. He has been honored by the National Institutes of Health with one of the highly prized MERIT (Method to Extend Research in Time) Awards, established to give cre-

ative scientists long-term support. In addition, he is an accomplished teacher who has been recognized for his ability to explain complicated material to his students. Foskett succeeds H. Lee Sweeney, who became chair of the Department of Physiology in 1999. Sweeney is now the inaugural director of Penn's Center for Orphan Disease Research and Therapy.

Nicholas Michael Hurren is now an Instructor in the Arkansas Children's Hospital Research Institute of the Univ. of Arkansas Medical Sciences, Little Rock, AR. Prior to this move Hurren was Postdoc in the Department of Surgery at the Univ. of Texas Medical Branch, Galveston, TX.

Thomas P.J. Solomon is now Associate Professor in the Department of Biomedical Sciences, at the Univ. of Copenhagen, Copenhagen, Denmark. Prior to this move Solomon was a Professor in the Center of Inflammation and Metabolism, at the Rigshospitalet, Copenhagen, Denmark.

Sukho Lee is now Associate Professor in the Department of Curriculum & Kinesiology at Texas A&M Univ., San Antonio, TX. Prior to this move Dr. Lee was Assistant Professor at Texas A&M Univ., Laredo, TX. ❖

## Positions Available

**Chair for the Department of Pharmacology and Toxicology:** The Medical College of Georgia at Georgia Regents Univ. announces a national search to recruit a new Chair for the Department of Pharmacology and Toxicology. The department was established in 1943 and has a long history of excellence in both neuroscience and cardiovascular research, including the pioneering work of Dr. Raymond Ahlquist. We seek applications from individuals with outstanding leadership skills and scientific credentials, that can plan, articulate and implement a vision to lead the department to greater prominence over the next decade. Candidates must have a PhD, MD, or equivalent, with an outstanding academic background including demonstrated success in research and mentoring, proven administrative skills, and a strong commitment to graduate and medical education. Experience in industry and/or translational research is also highly desirable. The department presently includes 16 tenured/tenure-track core faculty, 46 staff including research faculty, pre- and postdoctoral fellows and research technicians housed in recently-renovated, well-equipped laboratory space. Pharmacology faculty have active, well-funded research programs in cardiovascular and neuroscience. Successful candidates will have active and competitive research programs that are both nationally and internationally recognized, and be eligible for a faculty appointment as a full-time professor. Preference will be given to applicants

with interests complementing those of existing faculty as described at [http://www.georgiahealth.edu/medicine/phmtox/phtx\\_core\\_faculty.html](http://www.georgiahealth.edu/medicine/phmtox/phtx_core_faculty.html). Inquiries, nominations and applications (including full CV and letter of research interests/career plans) will be received by the Executive Search Consultant on behalf of the search committee co-chairs: Drs. Lin Mei and David Fulton. Carolyn H. Burns, PHR, Executive Search Consultant, Enterprise Search Team, Georgia Regents Univ. & Health System; Office: 706-721-7224; Fax: 888-975-2146; [executivesearch@gru.edu](mailto:executivesearch@gru.edu). [AA/EEO/Equal Access/ADA Employer]

**Kinesiology Assistant Professor:** The Kinesiology Department of St. Ambrose Univ. seeks an energetic faculty member for a full-time, tenure track position at the assistant professor level beginning August 2014. Qualified applicants will possess a Doctoral degree in Exercise Science, Kinesiology or closely related field (ABD considered), an exceptional commitment to student learning, and strong communication and interpersonal skills. The ideal candidate should have an interest and expertise in human movement analysis and willingness to teach in two or more of the following areas: Motor Learning, Kinesiology, Exercise Physiology and/or Basic Athletic Training with an opportunity to develop an upper level course in the candidate's area of expertise. Responsibilities of this posi-

tion include teaching, advising and mentoring students, serving on department and university committees and implementing a scholarship agenda. St. Ambrose Univ. is an independent, comprehensive, and Catholic diocesan university firmly grounded in the liberal arts. An institution of 3,700 graduate and undergraduate students, the Univ.'s Core Values include: Catholicity, Integrity, the Liberal Arts, Life-Long Learning, and Diversity. See [www.sau.edu](http://www.sau.edu) for further information. Review of applications will begin October 15th, 2013 and continue until the position is filled. Please apply online at [www.sau.edu](http://www.sau.edu) and attach a cover letter, resume and three professional references. AA/EOE

**Assistant/Associate/Full Professor of Physical Therapy:** The Trine Univ. Doctor of Physical Therapy (DPT) program in Fort Wayne, IN seeks an individual with expertise in the teaching of human physiology and pathophysiology at the graduate level. Depending on individual qualifications, opportunities exist for teaching in related areas such as anatomy, human growth and development, pharmacology and cardiopulmonary rehabilitation. As a core member of the DPT program faculty, the successful candidate will be responsible for contributing to the design, planning, and assessment of the curriculum; teaching, advising and mentoring students; and engaging in scholarship and service activities. The School of Health



Sciences is committed to educational excellence, producing outstanding graduates, and making a positive impact on the health care needs of our communities through service, leadership and scholarship. Job Requirements: A PhD in physiology or a related field and demonstrated excellence in college level teaching, preferably at the graduate level; evidence of ability to successfully engage in research and the peer-reviewed dissemination of results. To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. Language Skills: Individual must be fluent with the English language; Mathematical Skills: Individual must possess adequate mathematical skills; Reasoning Ability: Individual must possess adequate reasoning skills; Computer Skills: Individual must possess above average computer skills with various software applications relative to this position; Certificates, Licenses, Registrations: None required; Other Skills and Abilities: Excellent communication and interpersonal skills are required; Physical Demands: Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions; Work Environment: Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. About Trine Univ.: Trine Univ. is a small, private institution located in the beautiful lake resort region of northeastern Indiana. The mission of the Univ. is to promote intellectual and personal development through professionally-focused learning opportunities, preparing graduates to succeed, lead, and serve. Trine Univ. is proud of its reputation for providing graduates who immediately contribute to employment positions in both the public and private sectors. To learn more and apply online visit: [http://www.trine.edu/about\\_trine/employment\\_opportunities/13.cfm](http://www.trine.edu/about_trine/employment_opportunities/13.cfm).

**Tenure Track Faculty Position:** The Department of Kinesiology at Temple Univ. ([chpsw.temple.edu/kinesiology](http://chpsw.temple.edu/kinesiology)) is seeking a faculty member for an open-rank (9-month), tenure-track faculty position with expertise in

Neuromechanics. This position offers an excellent opportunity to join an innovative research group in motor neuroscience and a dynamic faculty of Kinesiology. Temple Univ., a Carnegie Research Univ. (high research activity), is a comprehensive public university located in Philadelphia, PA. The campus is racially and ethnically diverse, with more than 39,000 students. Temple Univ. is among the nation's largest provider of professional education (law, medicine, podiatry, pharmacy, dentistry, engineering, and architecture) offering over 300 academic degree programs. The University, the College of Health Professions and Social Work, and the Department have a strong research infrastructure. Qualifications: Doctorate in related domain of inquiry, post-doctoral training in relevant field of research, evidence of sustainable and focused research program, and record of extramural research funding (senior faculty position candidates) or demonstrated potential for extramural funding (junior faculty position candidates). Responsibilities: Develop and maintain a nationally recognized program of original research, including collaborative activities with current faculty. Teach undergraduate and graduate courses in the candidate's area of expertise that complement a new program in Sensori-Motor Neuroscience and other curricular offerings. Develop and maintain an externally funded research program. Salary: Competitive and commensurate with qualifications. Appointment: 9-month tenure-track appointment could begin as early as July 1, 2014. Closing Date: Review of application materials will begin November 15, 2013. The search will continue until a suitable candidate is identified. Application: Women and minorities are strongly encouraged to apply. Candidates should submit a curriculum vita, a statement of research focus including current and planned research activities, and copies of selected research/scholarly articles. They should also submit the names and contact information (telephone and e-mail) of three references. All inquiries should be directed to: Dr. Mayra Santiago, tel: 15-204-8719, [mayra.santiago@temple.edu](mailto:mayra.santiago@temple.edu). All materials should be submitted to: Linda M. Yarrish, Department of Kinesiology, Pearson Hall, Temple Univ., 1800 N Broad St, Philadelphia, PA 19122-6085; tel: 215-204-8704; Fax: 215-204-4414; [Linda.Yarrish@temple.edu](mailto:Linda.Yarrish@temple.edu)

**Tenure Track Faculty Position:** The Department of Kinesiology at Temple Univ. ([chpsw.temple.edu/kinesiology](http://chpsw.temple.edu/kinesiology)) invites applications for a full-time, open-rank (9-month), tenure-track faculty position in exercise physiology to support the department's research and educational focus on health issues as related to translational and evidence-based practice of physical activity on cardiovascular, metabolic or neuromuscular diseases. The department is positioned to study these foci using cell culture systems, animal models, and both clinical and sub-clinical human studies. Temple Univ., a Carnegie Research Univ. (high research activity), is a comprehensive public university located in Philadelphia, PA. The campus is racially and ethnically diverse, with more than 39,000 students. Temple Univ. is among the nation's largest provider of professional education (law, medicine, podiatry, pharmacy, dentistry, engineering, and architecture) offering over 300 academic degree programs. The Univ., the College of Health Professions and Social Work, and the Department have a strong research infrastructure. Qualifications: Doctorate in related domain of inquiry, postdoctoral training in relevant field of research, evidence of a sustainable and focused research program, and a record of extramural research funding (senior faculty position candidates) or demonstrated potential for extramural funding (junior faculty position candidates). Responsibilities: Develop and maintain a nationally recognized program of original research, including collaborative activities with current faculty. Teach undergraduate and graduate courses in the candidate's area of expertise that complement existing and new curricular offerings. Develop and maintain an externally funded research program. Salary: Competitive and commensurate with qualifications. Appointment: 9-month tenure-track appointment could begin as early as July 1, 2014. Closing Date: Review of application materials will begin November 15, 2013. The search will continue until a suitable candidate is identified. Application: Women and minorities are strongly encouraged to apply. Candidates should submit a curriculum vita, a statement of research focus including current and planned research activities, and copies of selected research/scholarly articles. They should also submit the names and contact information (telephone and e-mail)

of three references. All inquiries should be directed to: Dr. Joon Y. Park, tel: 215-204-1957, parkjy@temple.edu. All materials should be submitted to: Linda M. Yarrish, Department of Kinesiology, 237 Pearson Hall, Temple Univ., 1800 N Broad St, Philadelphia, PA 19122-6085; Phone: 215-204-8704; Fax: 215-204-4414; Linda.Yarrish@temple.edu

## Cardiovascular Postdoctoral Research Fellowships at Harvard Medical School/BIDMC: NIH-funded

postdoctoral research fellowships available in the Cardiovascular Institute at the Beth Israel Deaconess Medical Center, a major Harvard Medical School teaching hospital. Mentored research opportunities available in a broad range of topics including molecular mechanisms of heart failure, metabolism, vascular disease, and arrhythmia, as well as clinical research in epidemiology, imaging, and outcomes.

Applicants must have a PhD and/or MD degree and be a citizen or permanent resident of the United States. Underrepresented minorities and women are particularly encouraged to apply. Please send your curriculum vitae with a cover letter describing research interests and career goals to Dr. Anthony Rosenzweig, Director of Cardiovascular Research, do Christine Tower, Program Administrator, at ctowerbidmc.harvard.edu.

**Postdoctoral Research Scientist, Department of Neurology:** Following a recent grant from the NIH, the Dysautonomia Laboratory at New York Univ. School of Medicine has a vacancy for a Postdoctoral Research Scientist. The Center focuses on research and treatment of genetic and non-genetic autonomic disorders affecting cardiovascular control including; familial dysautonomia, Parkinson's disease, dementia

with Lewy bodies and multiple system atrophy. The Research Scientist will work on translational research projects designed to understand the natural history of sporadic onset autonomic disorders and the impact of novel treatments in genetic autonomic disorders. The project will involve the collection, organization and analysis of physiological data within a multi-disciplinary team. Suitable candidates should have primary interest in an academic career and a PhD in biomedical sciences, bioinformatics or the equivalent. Additional experience in cardiovascular physiology research is highly desirable. Further information is available at: <http://dysautonomia.nyumc.org>. Interested applicants should send their CV, a brief statement of interests and a letter of reference to Dr. Lucy Norcliffe-Kaufmann at norcll01@nyumc.org. Salaries are commensurate with training. This full-time position is available for up to three years. ❖

## Current Calls for Papers

### *Physiological Genomics*

### **Mitochondrial Metabolism**

### **NextGen Sequencing Technology-Based Dissection of Physiological Systems**

### **Epigenetics and Epigenomics** (January 31, 2014)

### **Physiological Genomics of Exercise in Health and Disease** (March 1, 2014)

### **AJP-Lung Cellular and Molecular Physiology Biomarkers of Household Air Pollution** (April 1, 2014)

### **Biomarkers in Lung Diseases: From Pathogenesis to Prediction to New Therapies**

### **Bioengineering the Lung: Molecules, Materials, Matrix, Morphology, and Mechanics**

### **Translational Research in Acute Lung Injury and Pulmonary Fibrosis** (December 1, 2013)

### **Real-time Visualization of Lung Function: From Micro to Macro** (January 1, 2014)

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### **AJP-Renal Physiology**

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### **American Journal of Physiology—Cell Physiology**

### **Cellular Mechanisms of Tissue Fibrosis** (December 31, 2013)

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### **Innovative and Emerging Technologies in GI Physiology and Disease**

## Evolutionary Biology, Cell-Cell Communication, and Complex Disease

John S. Torday and Virender K. Rehan  
New Jersey, USA: John Wiley & Sons  
Inc., Feb. 2012, 192 pp. \$79.95  
ISBN: 978-0470647202.

In this book, the authors argue that lessons learned from understanding cell communication may help explain the original events leading to the evolution of complex organ systems. The authors put forth a model based on parathyroid hormone related peptide (PTHrP) and its interactions with leptin and peroxisome proliferator-activated receptor (PPAR) in defining the mammalian lung. They propose and provide examples where understanding the evolution of the lung may be critical to understanding complex disease.

The book is organized into 10 chapters entitled, "The cellular origins of vertebrates"; "Reducing lung physiology to its molecular phenotypes"; "A cell-molecular strategy for solving the evolutionary puzzle"; "The evolution of cell-cell communication"; "How to integrate cell-molecular development, homeostasis, ecology, and evolutionary biology: the missing links"; "From cell-cell communication to the evolution of integrated physiology"; "Exploiting cell-cell communication across space-time to deconstruct evolution"; "The periodic table of biology"; "Value added by thinking in terms of the cell-cell communication model for evolution"; and "Cell-cell communication as the basis for practicing clinical medicine." As I set out to read the book, I was enthused to see the breadth of biology encompassed by those chapters. However, I was concerned as to how such material could be presented in only 158 pages of text.

The book was thought provoking. I found myself agreeing with much of what was presented but not convinced that the offered data supported my acceptance. In other words, much of the premises are rational, well conceived, and plausible. The offered data for support were less convincing. The omission of specific references (some are provided at the end of each chapter) requires a reader to extensively research a particular statement for verification. Complex ideas are put

forth with little development. For instance, an excerpt from p. 58 reads, "All of the molecular steps in lung development employed in the model have been shown to be causally related experimentally, and in some cases the phenomena can be mechanistically explained based on the basis of the underlying nature of the mediators. For example, salinity inhibits innate host defense in fish, but stimulates it through increased vitamin D metabolism, acting as a balancing selection pressure to facilitate evolutionary adaptation. Other examples are the selection pressure for type IV collagen synthesis, the effect of glyceric acid, the product of rancidification of land vegetation, on the specialization of mineralocorticoid and glucocorticoid receptors - pentacyclic triterpenoids such as glyceric acid inhibiting 11-hydroxysteroid dehydrogenase (11 HSD) 1 (11 HSD1), causing increased blood pressure, resulting in balancing selection for both the glucocorticoid receptor and 11 HSD1, resulting in local activation of cortisol within cells and tissues; or the impact of fluctuating oxygen tension in the environment over the past ~500 million years on the differentiation of the lipofibroblast to protect the alveolar wall against oxidant injury." Little further development of most of these ideas is provided. The result is that the reader is left pondering the purpose, veracity, and even meaning of entire sections. Perhaps a future edition will flesh the story out a little better and lead to a more convincing and accessible argument.

Although I agree with the authors that a major event in the evolution of cooperative multicellularity would be an establishment of a communication system between cells, I question the validity of using such a complex model as a basis for that argument. The mammalian lung and even the homologous swim bladder are much more recent advents than most organ systems. One might expect that many of the communication systems had long ago been established before the evolutionary development of a lung or even swim bladder. The authors' inferences on evolutionary events between mammals and other vertebrates may be overstated due to a lack of reconciliation of presumed phylogeny. For instance, many of the authors' argu-

ments are furthered by reference to the swim bladder of teleosts. However, differences in vascularization of teleost and non-teleosts including the rhipidistians (ancestors to tetrapods) suggest swim bladders are derived in teleosts. Simply assuming evolution of the molecular mechanisms based on differences between fish, amphibians, and mammals then is premature. There are many other similar examples in the book wherein one is just not sure if the argument is as simple as it is portrayed to be.

The authors have a somewhat disparaging view of the current status of evolutionary biology. The authors comment on what they perceive to be a lack of mechanistic data. While many would agree that evolutionary processes still require significant elucidation, the authors' apparent dismissal of the field is excessive. The authors' demonstrate a simplistic understanding of fundamentals of evolutionary process with an over subscription to the role of natural selection and optimization ideologies. I found numerous inaccuracies in what are fairly well-established timing events for life on earth, the role of phagocytosis and cytoskeleton in eukaryotic evolution, and the history of oxygen on earth. The result was reluctance on my part to accept the very brief and under-supported arguments as being factual. In the end, I was fascinated by the subject matter, compelled to research further the statements that were levied as being factual, but underwhelmed with the supporting material that I found. The authors should be commended for initiating their molecular model for a complex evolutionary event like organization of cells into a tissue. Unfortunately, the exemplary model here (PTHrP) falls short of convincing this reader. The book is certainly an interesting read and thought provoking. The level of expertise required to understand the material in the book will unfortunately dissuade many potential readers who would otherwise benefit from reading it. This book requires effort to read. The patient and diligent reader will be rewarded with new perspective and insight. ❖

Frank van Breukelen  
Univ. of Nevada Las Vegas



Hi all – Interesting wines this time, and from all over

## White wines

2012 VinTJS Sauvignon Blanc Knights Valley \$8. New Zealand this is not, but for the price this is not too bad. Nose is of citrus and melon, with some tropical elements too. The palate has obvious richness, again with lemon and melon. It is almost clean (just a hint of wet wool), with excellent acidity and good length. Knights Valley is a good appellation, and Trader Joe's label means it should be available.

2012 Matua Valley Sauvignon Blanc Marlborough, New Zealand, \$8. NZ this is. It is intense, varietal and herba- ceous with gooseberry and some asparagus. Rich with medium acid, it is very tasty, although for some too ripe and asparagusy (is that a word?) But at \$8 when most NZSB's are \$12- \$15.....

2011 Picpoul de Pinet, caves de Pomerol, Hugues, France \$8. This is one of very few cheap French wines I like. It has forward tropical fruit, with some citrus and toast. The palate is more citric than tropical, with good acid. It is a bit generic, but refreshing served cold on a hot evening.

2012 Tangent Albarino, Edna Valley \$12. This Spanish varietal is a favorite for me when well-made. This rare California example is pretty good for the price, with tropical and citrus fruit on the nose and palate. There is distinct cashew nut as well, unusual. There is slight green olive, and very nice crispness from the acidity.

2012 Elk Cove Pinot Gris \$15. A nice nose of stone fruit and citrus with a rich smooth and clean palate. Good



Peter Wagner

acidity and length. Sadly, the price has gone up, and compared to last year's vintage, which was truly outstanding, this one is just good.

## Red wines

2010 Bogle "Essential Red" California \$8. I have been and remain a Bogle fan. Great, great value. Zinfandel, Syrah, Cabernet Sauvignon, Petite Sirah. This is clean, forward, rich and red, juicy ripe, slightly sweet, easy drinking, not tannic, and great with anything grilled. There is some dry herb, vanilla, loads of red berry fruit. A bit simple, but tasty. Drink it young.

2012 Hahn GSM Central Coast \$9. I have been and remain a Hahn fan. Great, great value. Grenache (67%, Syrah 28% and Mourvedre 5%). This is clean, forward, rich and tasty, with dark plums dominant and a fair dose of dry sage on the nose and palate, the latter possibly being a little too strong. But it does make it interesting. Tannins are soft, acidity moderately high, it is lush, spicy and forward and

ripe but not sweet. Drink it young. (My self-plagiarism from the Bogle is intentional).

2010 Columbia Crest Red Wine "Les Chevaux" Horse Heaven Hills, Washington state \$12. I have been and remain a Horse Heaven Hills fan. Great, great value. They come out with several varietals under this Columbia Crest sub-label, and they have been uniformly excellent. The grapes for this wine are not revealed, but seem Rhone-ish mostly but likely blended with Cabernet and/or Merlot. Rich, structured, medium tannins and acidity, not overdone or too ripe, not sweet, just rich and smooth. This one could be kept a few years, but why when it tastes so good now?

2009 Foppiano Petite Sirah, Russian River Valley \$14. This wine has a forward blueberry nose with sage, clover and honey in the background. The palate is very big, with deep dark berry fruit, ripe and almost slight sweetness and some anise. It has excellent balance with good acid and not too strong tannins. Very good length, it tastes younger than its real age. PS used to be all tannin and extract, but the new age style has focused on flavor and cut the tannins. This one is a great example.

2011 McManis Pinot Noir \$8. This is a steal if you are looking for a crowd-pleasing party wine that boasts "Pinot Noir". Affordable good Pinot has become hard to find. The nose is serious – cherry, vanilla, oak, spice and cola. The palate has bright, forward sour cherry fruit, earth, cola and a touch of coffee and tobacco. It is medium bodied, with moderate acidity and soft tannins.

Enjoy! ♦

## 2013 Bodil M. Schmidt-Nielsen Award Lecture Now Online



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