



# The Physiologist

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## Arthur C. Guyton Educator of the Year Award

### The Bottom Line: Students Must Be Engaged

C. Subah Packer

Indiana University Purdue University at Indianapolis (IUPUI)

Receiving notification that I would be awarded the APS 2009 Arthur C. Guyton Educator of the Year Award was a wonderful surprise. So rarely are academic scientists recognized for their efforts that are not connected with the acquisition of large extramural grant dollars these days that I did not expect this honor, despite the fact that I knew I was a finalist. This unexpected outcome has renewed my respect for peer review and heightened my faith in our profession. Most importantly, much of the content of my teaching

dossier is documentation of the learning outcomes and achievements of my many students over many years. Apparently, the Committee has chosen me to be the recipient of the Arthur C. Guyton Educator of the Year Award for all the right reasons, the successes of my students. Therefore, my honor belongs to my students, who I know will take pride in this great honor as I do.

I love teaching and have been instructing biology and physiology at the university level since 1979, but teaching does not come without some worries. Throughout my career as an academic physiologist, I have been concerned about why it is hard for students



C. Subah Packer

to learn physiology. I have come to the conclusion, as have many of my colleagues that the problem largely lies in the fact that physiology is highly conceptual and we do not do a particularly good job of teaching/modeling conceptual thinking in prerequisite courses and/or programs. More disconcerting and increasingly of concern has been the development of the current crisis in science education as addressed in 2005 by

Leon Lederman, Nobel Laureate, who gave a lecture on the "Quiet Crisis" of science education and more rigorously in a report by The National Academies (16,14). The crisis is the paucity of well-qualified students in America who aspire to become scientists. The crisis is due to the declining quality of science education in the United States. For several decades, an infusion of foreign talent has kept US industries at the technological forefront, but now this is reversing and the current trend has become known as the "reverse brain drain." So, how can we ensure that well-qualified students in America become the US scientists of the future?

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## Merging Departments: Dealing with the Good, the Bad, and the Ugly

Melinda E. Lowy<sup>1, 2</sup> and Martin Frank, PhD<sup>1</sup>

American Physiological Society<sup>1</sup> and Association of Chairs of Departments of Physiology<sup>2</sup>

Many departments are facing the prospect of a merger with another department. Therefore, APS approached ACDP to conduct a short survey to gain a perspective on how many departments have gone through a merger, what the issues were that they had to deal with during and after the merger, and whether it was seen as a beneficial or detrimental move.

A survey consisting of five questions was emailed to all ACDP members. A total of 84 out of 186 chairs responded, yielding a very high response rate of 45%.

### Merged Departments

Of those Chairs responding, 51 (61%) said their department had not undergone a merger. However, 11 of those 51 Chairs (22%) noted that their institutions had either floated the idea, were considering it informally or formally, or had actually talked about it at a recent point in time. A total of 30 chairs (36%) reported they had undergone a merger and another 3 chairs (3%) said they had undergone a type of merger or partial merger. For the remaining questions, those 33 chairs' responses were combined.

The greatest number of mergers began occurring in the 1990s (11 departments) and continued in the 2000s (19 departments to date; 56%) (Table 1).

### Types of Departmental Mergers

The majority of the mergers were with two other departments: pharmacology (18 departments) and anatomy (11 departments). Also, several mergers involved departments in biochemistry, cell biology, neuroscience, and basic sciences/pre-clinical sciences (Table 2).

### Merger Results: Beneficial or Detrimental?

When departments were asked whether they viewed the merger as beneficial or detrimental to their department, the majority responded that it had been beneficial (19 departments; 58%). In addition, 6 departments noted that their merger had aspects that were both beneficial and detrimental (Table 3).

When asked for more information as to why the merger worked or didn't work for their department, chairs focused on four major areas: departmental culture, research, teaching, and administration.

### Departmental culture issues

Difference in departmental culture between the merging departments was mentioned the most as being the hardest issue to overcome. A few chairs noted the downside of merging, as typified by this comment.

*"It was a disaster. When the deanship again turned over in 2005, the departments were separated again. The problem was that the missions of the two departments were quite different and the faculty had quite different goals. As a result, discussions on allocation of resources, teaching loads, etc became quite divisive."*

The majority of chairs reported that it was possible to deal with the differences and several chairs offered advice on how they overcame them. Many pointed out that strong leadership from the Chair and involvement of faculty from both departments aided in easing the difficulties of the merger.

*"This was a difficult merger, due to the differences in culture and philosophy (but not in the dedication to quality research and teaching) between the groups. Forming divisions allowed each group to focus on continuing special interests, while the new "culture" of the merged department was forming. I initiated several department-wide events and programs that allowed for interactions between faculty and students of the former departments."*

*"Before the merger, each department had their own agendas and*

*areas of emphases with regard to expansion of research programs, commitment to and input on medical school curricular issues, graduate programs, and service – this eventually turned into a strength...."*

*"Even though at first there was much angst over the merger in both departments, over time, the merger has been beneficial.... With proper leadership and compromise from faculty in both departments, as well as institutional support for the new department, the merger can work out exceptionally well."*

*"Prior to the merger, I met with all of the physiology faculty members and allowed them to express their concerns and talked to them about what I would do to help them and what I would expect from them. It helped that I knew all of the faculty members very well and had collaborated with some of them in research. As the Chair of the combined Department, I was very open about departmental decisions, provided the combined faculty with travel to research meetings that wasn't available before, provided more assistance for pilot projects and worked hard to create a feeling of one department rather than two departments with one name."*

*"There were definite difficulties trying to integrate the two groups. One faculty (Physiology) was research oriented, and the other (Anatomy) was poorly funded and primarily oriented toward teaching. Usually, mergers occur between a strong department and a weak department, so there is work to do in developing a constructive environment and utilizing everyone to best advantage."*

*One has to have the mindset that faculty from different departments might have quite different activities and vocational skills. For example in the case of my department, if we are lucky enough to recruit anyone that can teach gross anatomy, the chances*

**Table 1. Year of Merger**

Years	No. of Depts	%
1970s	1	3
1980s	3	9
1990s	11	32
2000-2004	13	38
2005-2007	3	9
2008-2009	3	9

N=34 (1 department underwent 2 mergers).

that he/she will also be productive investigators are very low. They provide an important service to the department and school, however, so they have to be treated respectfully, rewarded for excellence in teaching and student and service activities, and accepted by the department for their mission. Other faculty members (like those already in Physiology and most of those newly recruited) taught low numbers of hours and were all NIH-funded. People of disparate activities and interests have to be carefully integrated and helped to establish a climate of mutual respect. This is an area where 'academic leadership' is possible and the example of respect set by the chair can make a difference."

"Recognize that evaluation standards (ones used for promotion and annual evaluation) must recognize differences between academic fields, e.g., education and research, molecular biology and behavioral neuroscience."

## Research issues

A few Chairs noted the merger was a detriment to their Department's research program, as typified by the following comment.

"[The merger was] detrimental to research since the primary focus is now on Developmental and Reproductive Biology (including Reproductive Physiology), but this has been done at the expense of the other physiology subdisciplines."

However, the majority of chairs reported seeing their department's research mission expand and increase, even if it took some time to occur.

"Initially the merger was probably detrimental without any additional benefit as areas of overlap in research and teaching were not obvious or, more likely, not looked for. However, at this stage the merger has provided a much stronger Department with more crossover of programs and, in turn, more room for development of new programs."

"Research space is more equitably distributed across faculty in the two formerly separate departments owing to now common guidelines for space allocation. Cross-disciplinary research interactions [were] strengthened owing to more venues for interaction between the formerly separate faculties."

"Scientifically, there's no Pharmacology research without Physiology, and there are very few Physiologists who do not depend on drugs with specific mechanisms of action in their research. It is a continuum, and it is stimulating to get fresh points of view."

"The merger dramatically promoted collaborations between these two groups of scientists and also expanded the knowledge base for each group. It has also broadened the scope of our faculty recruitments."

"I agreed to the merger because I could pick up several unfilled faculty positions and appropriate space. I filled these positions

with research-oriented faculty that helped fill important niches in our intellectual base."

"... we coordinate research directions and have a single graduate program (Neuroscience) rather than each area pursuing their own agenda. This has enabled us to develop critical masses in a limited number of subjects and maintain a cohesive outlook rather than each division pursuing isolated agendas."

## Teaching issues

Chairs commented that teaching can be a potential problem area.

"[You] have to guard against under-/over-emphasis on a particular discipline when providing input for curricular and other issues related to the missions of the school of medicine.

Same [equitable distribution] applies to distribution of teaching and service efforts. However, it is important to note that some faculty view this as a benefit (those who gained from the common vision), while others might view this as detrimental (those who lost space, were asked to increase teaching contributions or otherwise modify their effort distribution, etc). Cross-disciplinary cooperation [is] stronger with regard to medical education issues."

"[It] has weakened the teaching programs for the medical students."

"The big problem: at the Dean's level there is only a limited window (several years) where the merged Department is viewed as 'two combined' Departments. After that, it's just one Department with twice the teaching load. The total number of faculty will be less than if you had two separate Departments, so build in your new hires up front."

"However, this has not been as good an arrangement for the non-neuroscience oriented faculty. This leads to some loss of traditional perspectives (sore point with some faculty), but we try to incorporate aspects of Anatomy, Physiology, and Pharmacology within the Neuroscience curriculum.

However, overall the chairs noted that their Department's teaching programs were strengthened by the merger.

**Table 2. Other Departments Involved in Merger**

Department Merged With	No. of Depts	%
Pharmacology	18	41
Anatomy	11	25
Biochemistry	3	7
Cell Biology	2	5
Neuroscience	2	5
Basic Sciences/Pre-clinical Sciences	2	5
Animal Health & Biomedical Sciences	1	1
Biophysics	1	2
Communication Disorders	1	2
Microbiology, Immunology & Biochem.	1	2
Molecular Biology	1	2
Structural & Chemical Biology	1	2

N=44 (if more than one other department was involved in a merger, each was counted individually).

*“Traditional Departments were based on conventional teaching programs in which a single discipline was taught. Now with increasing emphasis on interdisciplinary teaching, a merged Department will be poised to teach in a new style that will become the modus operandi of the future.”*

*“The integrated course is outstanding. More faculty, not fewer, turn out to be needed to put together the medical student course.”*

*“The graduate program is much stronger by allying with the molecular and cellular biomedical scientists than if we had remained isolated.”*

Again, it was seen as important how the chair reacted to and dealt with perceived issues between the faculty of the two Departments.

*“Although in the professional curriculum we still have a traditional division of courses between Anatomy, Physiology, and Pharmacology, we plan and think in a more cooperative manner (no turf wars to justify hours in the curriculum, which are ultimately used to justify numbers of faculty).”*

*“Teaching first year medical students is completely different than teaching second year students. In Pharmacology (second year) the students have been educationally homogenized by their shared coursework in year one, and we can make a whole lot of assumptions about what they have or have not been exposed to. In Physiology (first year) the students are all over the map - some have master’s degrees or PhDs in Physiology, others have never had a basic course in the discipline. It is stimulating to teach in both years and watch this progression. Also, many of my faculty now teach in both years - e.g., Cardiovascular Physiology in year 1 and Cardiovascular Pharmacology in year 2. This makes reinforcing and expanding concepts presented in year 1 easier in the year 2 course.”*

*“We also now have some Pharmacology faculty helping with the Physiology teaching, and I was able to replace the previous*

*Chair of Physiology (who recently retired) with an Eminent Scholar in Physiology and recouped a Physiology faculty position that the previous Chair was not allowed to fill.”*

*“I put the Anatomist who was viewed as the senior and of greatest leadership potential into a position of vice-chair for Education (and pay him more). He organizes all of the courses, faculty committees regarding education, service and school committees regarding education, and end-of-the-year teaching evaluations. He has raised the teaching standards and enthusiasm of all of the departmental faculty about their teaching activities. He is encouraged to be innovative and to coach members of the faculty that are new or having difficulties with language/communication, etc. At this point, our several courses are all highly rated by students and faculty reviews.”*

### Administrative issues

**Costs:** Administratively, with respect to cost savings, there seems to be mixed responses. Many of the Chairs reported no or a minimal decrease in administrative costs.

*“Administrators are attracted to the notion, thinking that significant dollars can be saved. This is most likely not the case. One might save on one or two administrative persons depending on the size of the department but otherwise - it’s really down to how productive each faculty member is in terms of research and teaching. Those numbers (i.e., the number of functioning faculty) remain constant whether coalescence or dispersal is the model of the day. If one creates a large department then subdivisions often arise, each with a “chief.” So how is that cost effective?”*

*“More administration, not less is needed for this to work efficiently. More money is needed to fund the merged Department than the individual Departments.”*

Other Chairs did report reduced administration costs.

*“Dean was able to state to Central Administration that he had reduced administrative positions.”*

*“Having only one Department head reduced administration costs and we were allowed to retain the funds allocated for the other Department head salary, as part of our general operating budget for the merged department.”*

*“We have less administrative overhead and improved efficiencies; just one larger staff instead of three smaller duplicative ones.”*

*“Administrative savings are not that great, but down the road a recruitment package will need to be developed for one chair hire, not two. The College was able to recruit recently a strong chair for [the Department] because of the merger strategy.”*

**Stronger presence in School of Medicine:** Many Chairs noted that a positive factor for merged Departments was having a stronger presence in the School of Medicine.

*“Mostly beneficial in terms of having a much larger critical mass, more resources, larger presence in the Faculty of Medicine.”*

*“Neither Department was large enough to be as effective as was the combined Department.”*

*“The graduate program is much stronger by allying with the molecular and cellular biomedical scientists than if we had remained isolated.”*

On the other hand, several chairs made the opposite observation.

*“[There is the] potential for reduced basic science input to school of medicine / university issues, owing to reduction in votes on Department head councils (the number of basic science Departments has decreased from 5 to 3, owing to mergers of formerly separate basic science Departments).”*

*“Physiology is not as strong in the SOM as if it had been a depart-*

**Table 3. Results of Merger**

Result	No. of Depts.	%
Beneficial	19	58
Detrimental	2	6
Both	6	18
Not sure	5	15
No response	1	3
<hr/>		
N=33		

ment because it is easier to dissolve divisions than departments.”

**Other administrative issues:** Other issues raised by Chairs in merged Departments include faculty input, Chair work load, amount of resources, and location of merging Departments.

*“Larger faculty provides more possibilities for input/discussion on Departmental matters. [However, it means] increased work load for Chair; less time for interaction between individual faculty members and the chair.”*

*“Broader consensus on faculty recruitments and directions for research.”*

*“The combined overhead from the merged Department is four-fold greater than the two individual Departments brought in independently.”*

*“One single, important issue remains in full integration of the Department. The two component groups of the faculty are located in the spaces of the former Departments separated on opposite sides of the Medical Campus. To achieve full collegial interactions within the faculty, efficient function, and removal of costly administrative redundancies, it is essential that the Department be located in contiguous space.”*

## Conclusions

Based on the responses and comments received, being involved in a Departmental merger can be beneficial or detrimental, depending on the particular situation and university. However,

by far, most Chairs responding reported that it turned out to be a beneficial arrangement.

In almost all comments, the initial response to the merger was detrimental because neither Department involved wanted the merger or the change that accompanied the merger. Oftentimes the cultures of the two Departments were different, in some cases drastically.


That said, the Chairs who had the most success were those who were willing to involve faculty from both merging departments in the process, make adjustments as needed in terms of faculty responsibilities and evaluation, and work hard to encourage collaborations both in research and teaching.

While mergers are usually not welcome, the good news is that after a few years of adjustment, most are viewed as having been beneficial for the faculty. ❖

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Now, in 2009, we are wondering if we have survived or will survive the “economic crunch” of 2008. Yet, long before 2008, the scientific endeavor was being “crunched.” Research and innovation are cornerstones of the greatness that America has, thus, far enjoyed and these cornerstones should remain a substantive part of the heritage. But, the new millennium heralded in an era of the devaluing of science and academia. Relative if not absolute dollar amounts of state funding to universities diminished. Federal funding for research did not keep pace with need. The message from our governing bodies was that higher education and basic scientific research are not worth supporting and should not be paid for from tax dollars. Institutional administrators and boards of trustees responded largely by creating and/or operating on the myth that the work of academicians should generate dollars. The reality is that teaching and bench research take dollars and the real products are learned minds and new knowledge. Scientists cannot operate on a dictated unbalanced imaginary equation. Nor can scientists operate on the notion that they can generate their own salaries and “rent” their own laboratory spaces making them, essentially, self-employed. Research cannot be done for the purpose of producing monetary profit. Many great hypotheses will prove to be incorrect and the “negative” data generated that “null” these hypotheses will not result in tangible marketable products, or new extramural grants in the current environment, but will be essential to establishing better understandings and new knowledge. In the words of Professor Emeritus CS Hui at the time of his retirement dinner: “We [American scientists] used to get money to do research. Now, we [scientists] do research to get money. I hope that you know the difference.” The American public is largely unaware of the precarious fiscal status of higher education and the research endeavor. So, how can America regain its global leadership in the advancement of science and technology? Will our academic research institutes simply collapse in silence? Part of the answer and hope is coming from the new federal administration that has already demonstrated a resurgence of support for the scientific endeavor by significantly increasing basic research funding from the National Institutes of Health to the National Science Foundation (6, 13). Some of the rest of the answer is in the

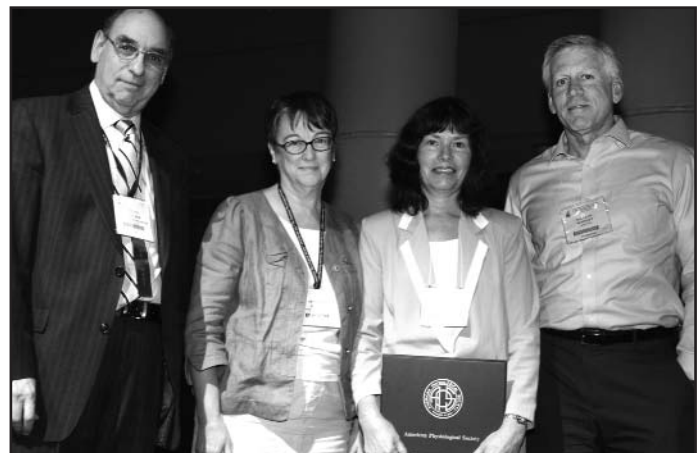
hands of scientists who can teach not only about facts but also about philosophies.

Scientists can have a voice in the fair dispersal and appropriate use of the available research funds. Current policies and mechanisms for the distribution of federal grant dollars to the scientific community might need major reform if we are to make the next generation of scientists secure in the profession. Scientists could consider and propose novel solutions for greater, more equitable and efficient fiscal support of the work that they do. Perhaps most crucial is that scientists can teach about the long and often tedious time course of scientific investigation, the delayed rewards and universal application of scientific discovery, and the long-term benefits of the scientific endeavor. The salvation cannot rely on a short-term fix from a current federal administration but is in an informed “science-savvy” public (11). A public who understands the universal value of scientific knowledge and research will be more inclined to vote to support the work of scientists and the institutions of higher learning. But, who will inform the public and how will a “science-savvy” public be created? Although hard evidence is mounting, one does not have to be a rocket scientist to surmise that students who find their required science curriculum to be more interesting than it is boring might be more inclined to value science. Students engaged in the scientific endeavor will be more likely to develop into citizens who appreciate and support America’s research endeavor than are individuals who were disenfranchised during their educational experience. Clearly, scientists must get more involved.

“Partnering” is in! Scientists can partner with other educators and with the public in their effort to perpetuate the exponential growth of scientific discovery that has been a hallmark of American history. Partnerships do not have to be big to have impact as EF Schumacher, the British economist, pointed out in his book *“Small Is Beautiful: Econom-*

*ics As If People Mattered,*” which is a collection of essays that propose the idea of “smallness within bigness.” “Small Is Beautiful” came from a phrase by Schumacher’s teacher Leopold Kohr (15). In the current context, an effective partnership can be as small as one scientist and a handful of research student interns or as small as one scientist and a high school science teacher within the university or the universe.

I believe that the key components of success that will be measurable in student learning outcomes are initial engagement and subsequent continuity. In my experience, adopting a philosophy where the student comes first results in win-win situations in both the teaching and research endeavors. The success of the approach of creating a “research home and academic/lab family” and in providing an environment of continuity for research students is attested to by the academic and career success of the students. Certainly, in laboratory research, “more heads are better than one.” In the lab family, junior students benefit from mentoring by more advanced students, in addition to the mentoring received from the principal investigator/faculty advisor. Enthusiasm generated in senior lab personnel, such as postdoctoral fellows, research associates and technicians, is infective to junior lab personnel. The “trickle down” effect can exponentially increase the magnitude of impact per student, as well as the number of students impacted by a faculty advisor’s attitude and effort. Building a “lab family” is the independent investigator’s small scale deployment of the cascade dissemination of knowledge model.



APS President Irving Zucker and Penny Hansen, APS Teaching Section Representative and last year’s awardee, present the Guyton Teacher of the Year Award to Subah Packer, along with William Schmitt, Elsevier.

Engaging the student means valuing his/her creative input and enjoying watching the student develop hands-on skills. In teaching medical school students, I explain that if one listens closely to a patient, the patient is often telling the physician what is wrong, although the patient usually lacks the medical vocabulary to articulate the problem in the language in which the physician has been trained. Similarly, just as listening to the patient often teaches the physician how best to diagnose and treat the patient, listening to the student teaches the teacher how best to teach the student. This collaborative approach between mentor and student in the research setting can be carried over to the classroom where the teacher must listen to many students and engage the entire class. In practical terms, how does one engage an entire class in the learning of physiology? Regardless of class size, the seven E's: excite, explore, explain, expand, extend, exchange, and examine as defined by the Miami Museum of Science (12) can be employed. I have found that student-centered engagement activities to initiate topics works best. If classes are small, problem-based learning is the best approach. But even in large classes of 100 students or more, inquiry activities that may require only 15-20 minutes in an initial lecture slot can be employed to peak curiosity and create the "need to know" for several lectures to come or even, in some cases, for the remainder of an entire course. Once engaged, students are primed to receive more didactically relayed information and to generate the additional questions that such new knowledge elicits. New knowledge (i.e., learning) then becomes intrinsically rewarding, which feeds the momentum to continue to learn. But, the successful engagement and training of professional and graduate school students is only possible if there is an applicant pool from which to draw (i.e., if there are students present to be engaged).

School systems in many states, certainly in Indiana, are required to make advanced placement courses available to their students. However, many schools, both rural and urban, lack the resources needed to inspire teachers and their students and/or to support those who are inspired. Increasingly, the minimal resources available in a school system are being concentrated in one or a few magnet schools leaving other schools in the system short-changed on resources.

Consequently, only chosen/selected students and their teachers have access to educational environments that might approach optimal. Perhaps most important is the inequitable distribution of the human resource. According to national survey data, about one in four of all secondary classrooms are taught by teachers lacking either a major or minor in the subject area. Classrooms in high-poverty schools and high-minority schools are far more likely than those in low-poverty or low-minority schools to be taught by teachers out of their field of expertise (8). We must supply good to optimal learning environments for all students if we are not to overlook our brightest young minds. Training, equipment and supplies, support, as well as opportunities to test advanced concepts with an inquiry approach, are needed to equip science teachers to meet the challenges of providing advanced biology education. Scientists can help. Teacher development programs that model inquiry pedagogy and equity in the classroom, while meeting content standards established in the National Science Education Standards and State Proficiency Guidelines, will improve the quality of pre-college science instruction. University science educators, medical professionals and scientists can support teachers as they strive to implement state and national science education standards with novel, inquiry-based and real-life laboratory experiences that promote enthusiasm for science (7). Such outreach programs utilizing the efforts of relatively few scientists or relatively little time of many scientists can have widespread impact as this is the large scale deployment of the cascade dissemination of knowledge model.

Of additional concern is the fact that Indiana struggles to meet healthcare workforce needs, as is the case in many, if not all, states. There has been relatively little progress made in achieving equity in terms of racial, ethnic, and even (or perhaps most blatantly) gender representation in the healthcare professional population despite a growing need to move in this direction. While 18-20% of the population of the city of Indianapolis is composed of minority groups (1), only  $\leq 6\%$  of physicians are from the minority sector of the population (2). Somewhat disconcerting is the fact that while almost 50% of medical school students are women and more than 50% of patients are women, less than 35% of practicing physicians are women. Most

worrisome of all is the fact that about 86% of full professors in US medical schools are white men and this is despite the fact that almost equal numbers of white men and white women enter medical school (2,3). The disparity is even more pronounced in the scientific community where women comprise  $\leq 10\%$  of full professors and may make up as low as 2% of full professors in engineering (4). In Indiana, less than 8% of core city children will attend institutions of higher education and the number who might even imagine a career in science is negligible. I believe that working towards correcting the inequity is simply an inherent obligation in our teaching mission. But, clearly, the statistics show that the problem is not just about working to increase the numbers of students from underrepresented groups who will make it into professional and graduate school programs. As we move towards having equity in numbers entering and graduating from higher science education programs, we must create equity in the working environment. The US can no longer afford to have high attrition rates of doctors, engineers, and scientists from the workforce simply because we fail to create (or because we "roadblock") opportunity for success for women and members of minority groups once their training has been completed. Minimally, such attrition is negative in an economic sense, as we have greatly invested in the training of each individual who obtains a graduate or professional degree. We simply cannot waste the valuable human resource. Maximally, such attrition undermines the American philosophy of equal human rights and the movement towards correcting the under-representation of women, minority groups, and the economically disadvantaged in science, medicine, and academia.

The Association of American Medical Colleges (AAMC) definition of "underrepresented in medicine" is: "Underrepresented in medicine means those racial and ethnic populations that are underrepresented in the medical profession relative to their numbers in the general population." (3) One of the obstacles to correcting the lack of diversity and underrepresentation is that students from economically disadvantaged backgrounds and/or traditionally oppressed minority groups have little exposure to the medical and scientific communities. Students from core city and rural school systems often have no sense of the multifaceted



careers that exist within the life sciences in general, let alone the extensive array of educational and career opportunities that are available to them. These students infrequently see medical personnel or scientific researchers in practice. The lack of role models encouraging students to explore and pursue science and medical careers has been of concern not only for recruiting students into biomedical education and research but also into teaching science and math at K-12 level. Correcting the latter problem is actually the key to correcting the larger problem. A diverse population of well-trained science teachers who are treated with equity will change the K-12 classroom experience for students from the beginning of their immersion in formal education. However, such equity of diversity amongst teachers is still a long way from a reality as Indiana and the US at large works to remedy the lack of well-qualified science teachers in general, regardless of race, ethnicity, and gender. Students who are already in the system will not benefit from these efforts. Therefore, supplemental life science enrichment programs are critical if the current K-12 students and their science teachers are to have a chance at becoming engaged in moving students towards the pursuit of life-sciences careers or even towards an appreciation of the scientific endeavor. Scientists can provide or facilitate such supplemental programs.

Indianapolis is known as the "sports and fitness capital." The National Institute for Fitness and Sport (NIFS) is located just down the street from Indiana University School of Medicine, the second largest medical school in the country, on the Indiana University Purdue University at Indianapolis (IUPUI) campus in the center of downtown Indianapolis. Yet, Indiana boasts the third most obese population in the country and Indiana residents are far from fit (5). The lack of connection between these institutes of wellness and education and the general population is a significant problem that is expensive in the quality of life and productivity of the citizens of Indiana and contributes to an estimated greater than 1.6 billion dollars in obesity-attributable medical expenses in the state of Indiana per year since 2003 (9). Indeed, the problem may play a significant role in the current obesity and metabolic syndrome/type 2 diabetes epidemics that are now manifesting amongst not only adults but adolescents and even young children, especial-

ly within minority and economically disadvantaged groups (5, 9). Educators, scientists, and medical professionals must recognize that educating young people about nutrition and physical fitness is fundamental to working towards changing high-risk dietetic and physical inactivity practices. Diverse cultural perspectives must be represented in the teams of researchers and educators addressing problems related to nutritional habits and level of physical activity if the obesity epidemic is to be halted or reversed. The next generation must be in a position to be able to choose a healthier lifestyle than that currently modeled by many of the adults impacting their lives. "Healthy bodies promote healthy minds." Conversely, unhealthy bodies hinder the ability to learn. Therefore, I am devoted to the concept that nutritional counseling with healthy school cafeteria menus and physical fitness programs must be part of the normal curriculum of all K-12 students in all school systems if we are to create an equitable learning platform for all students. Scientists must educate our governing administrators and the general public about the need for good nutrition and physical fitness programs for our K-12 students. This vital outreach job was begun decades ago. For example, the impact of orange juice consumption on learning by school children received significant attention in response to work on Vitamin C made famous by Linus Pauling. The work of scientists resulted in many of the free or reduced cost school breakfast and/or lunch programs in practice in underserved communities today (10). But more must be done until the problem of inequitable access to basic nutrition and fitness and to educational opportunities is rectified. Scientists cannot be complacent knowing that millions of American children are growing up with limited or nutritionally inadequate food resulting in poor physical and mental health and poor academic performance (17). My commitment in this regard is manifest in recent efforts to design science education outreach programs that incorporate nutrition and fitness components. Scientists who are involved in medical education can also help by supporting development of medical school curriculum that incorporates nutrition education in an integrated four-year program. Once again, the educational approach must be student-centered if a positive impact on the health and the education-

al achievements of disadvantaged populations is to be realized.

So, with all of these concerns that may seem overwhelming, what exactly is it that I love about teaching? The bottom line is that students must be engaged in order to succeed and it is fun to engage students. There is also contentment in being part of a community of teachers and learners. Remembering that the word "doctor" comes from the Latin "docere" meaning to teach, a scientist called "doctor" is a teacher. Whether my fellow doctors engage one student or many using just the laboratory setting, the lecture hall or some less typical venue, I know that we, the teachers, will enjoy each moment of engagement. And, when we are not "in the moment," we will contemplate the successes of our students and find satisfaction in knowing that our students will enjoy each moment of engaging students of their own; a job well done and the future looks brighter again.

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## Section News



At the EB 2009 meeting in New Orleans, LA, the Endocrinology & Metabolism Section made the following awards to faculty, postdoctoral fellows, and graduate students. The recipients of the awards were chosen by the Section Steering Committee and the postdoctoral and graduate student awards were based on the excellence of research presented at the meeting.

**New Investigator Award:** Nathan K. LeBrasseur, Pfizer Global Research & Development Cardiovascular, Metabolic and Endocrine Diseases

**Virendra B. Mahesh Award for Excellence in Endocrinology:** Michella Soares Coelho, Univ. of Sao Paulo School of Medicine

**Mead Johnson Research Award in Endocrinology and Metabolism-Young Investigator:** Sharell M.

Bindom, LSU Health Sciences Center; and Daniele Nunes Ferreira, Univ. of São Paulo School of Medicine

**Endocrinology and Metabolism Section Research Recognition Award:** Julio C. Sartori-Valinotti, Univ. of Mississippi Medical Center; Gordon I Smith, Washington Univ.; Gina L. C. Yosten, Saint Louis Univ.; and Kimberly Mulligan, Vanderbilt Univ. ❖

# Meetings & Conferences

of the **American Physiological Society**

## **Experimental Biology 2010**

April 24-28, 2010 • Anaheim, California

## **2010 APS Intersociety Meeting:**

**Global Change and Global Science:  
Comparative Physiology in a Changing World**

August 4-7, 2010 • Westminster, Colorado

## **2010 APS Conference:**

**Inflammation, Immunity and Cardiovascular Disease**

August 25-28, 2010 • Westminster, Colorado

## **Experimental Biology 2011**

April 9-13, 2011 • Washington, D.C.

## **2011 APS Conference:**

**7th International Symposium on Aldosterone  
the ENaC/degeneration Family of Ion Channels:  
Molecular Mechanisms and Pathophysiology**

Date and Location to be Determined

## **2011 APS Conference:**

**Autonomic Regulation of Cardiovascular  
Function in Health and Disease**

Date and Location to be Determined



The American Physiological Society, Meetings Department  
Phone: 301.634.7967, Fax: 301.634.7264, E-mail: [meetings@the-aps.org](mailto:meetings@the-aps.org)

## APS Council Holds Summer Meeting in Bethesda

The APS Council held its summer meeting in Bethesda, MD, July 8-10, 2009, at the Bethesda North Marriott Hotel and Convention Center. It is at the summer meeting that the Council welcomes the chairs of the APS committees to present their annual reports. The reports presented to Council are in this issue, and begin on page 184.

In addition to the annual reports, the chairs also discussed the highlights of their committees' activities and programs during the past year, and presented Council with their goals and plans for the coming year. The chairs also submit requests for new committee programs to Council for approval. If the program will require financial support, the chairs are required to include a New Programs Fund request document with the request.

Immediately following the EB09 meeting in New Orleans, several APS members and staff attended the Pharmacology Program Directors Meeting. The attendees agreed that it would be beneficial for APS to have a similar meeting for the physiology graduate program directors. Based on these comments and the meeting report presented to Council, all agreed that APS would participate in a joint Physiology and Pharmacology Directors Meeting. The meeting will be in July 2011 at Michigan State University.

Council approved the conference request for the *2011 APS Conference*:

*Autonomic Regulation of Cardiovascular Function in Health and Disease.* The conference organizers are Irving Zucker, Univ. of Nebraska Medical Center, and Kaushik Patel, Univ. of Nebraska Medical Center. The conference will be in October 2011; the location will be determined later.

During the Spring Council meeting, Council received a recommendation that the Society conduct a contest to design a new APS logo that is more readable and is reflective of the Society's mission and/or upcoming 125th anniversary. During the summer meeting, Council approved the contest rules and the submission deadline date of October 15. The contest will be open to both APS members and non-members.

The Chapter Advisory Committee reported on the creation of two new chapters—the Tennessee Physiological Society (TPS) and the Puerto Rico Chapter. The CAC has reviewed and approved the TPS bylaws, and submitted them to Council for final approval, which Council approved. The Puerto Rico Chapter is currently drafting its bylaws and the CAC will review and approve them when they are complete, and then Council will receive a copy of the bylaws for final approval.

The Liaison with Industry Committee (LWIC) proposed to Council and received approval to change the name of the committee to the Physiologists in Industry Committee (PIC). Craig Plato,

chair of the LWIC, said that industry members are involved in diverse activities from drug discovery to nutritional development, and as physiologists, they share an interest in the mechanisms and processes regulating molecular, cellular, organ, or organism function. The mission of the Committee is to help integrate this diversity and shared interests of industry members into the APS. For more information on the Physiologists in Industry Committee, please go to [www.the-aps.org/committees](http://www.the-aps.org/committees).

The Education Committee reported that several universities and professional societies have recently released explicit statements on the importance of specific scientific disciplines, teaching approaches, and advocacy in K-12 education. For many years, the APS has pursued multiple initiatives in K-12 outreach, but the Society has never developed an explicit statement of its recommendations to K-12 educators. Thus, the Committee proposed to Council that they develop a position statement for the APS on K-12 Outreach. Council approved this request. Council will receive a copy of the position statement for final approval.

One of the highlights of the summer Council meeting is the employee appreciation reception. This year, APS President Gary Sieck hosted the reception on Wednesday, July 8 on the portico of the Lee Building on the FASEB campus. The reception provides an opportu-



**APS Council:** sitting: Pam Carmines, Barbara Goodman, Irving Zucker, Gary Sieck, Peter Wagner, Jeff Sands; standing: Ron Lynch, David Pollock, Linda Samuelson, David Brooks, Michael Portman, Curt Sigmund, J.R. Haywood, Frank Powell, Usha Raj, Kim Barrett, and Tom Pressley.



**APS Committee Chairs: seated: Erica Wehrwein, Jane Reckelhoff, John Buckwalter, Patricia Molina; standing: Craig Plato, Nansie McHugh, Tim Musch, Kathryn Sandberg, Frank Belloni, Ida Llewellyn-Smith, Peter Lauf.**

nity for members of Council and the committee chairs to meet with the APS staff. During the reception, Sieck thanked the staff for their hard work saying "he is very proud of the staff" and "...it has been an honor to get to know the APS staff."

During the reception, APS recognized those staff members who have served the Society for a significant period of time. This year, Sieck presented certifi-

cates to the following employees: a 20-year certificate to Mark Goodwin (Editorial Manager); a 15-year certificate to Stephanie Demma, (Editorial Supervisor); a 15-year certificate to Carolyn Villemez (Production Administrator, Publications Dept.); 10-year certificates to Maria Bokman (Editorial Supervisor), Ellyn Kestnbaum (Editorial Supervisor), Martin Mould (Editorial Supervisor),

Jennifer Navas-Marquez (Copy Editor), Robert Price (Director of Finance), and Iliana Torres (Peer Review); and 5-year certificates to Kevin Chian (Financial Analyst), Sarah George (Meeting Planner), Leona Kanaskie (Copy Editor) and Rebecca Osthus (Science Policy Analyst). ❖



**APS Staff Recognition: front row: Ellyn Kestnbaum, Maria Pasho, Jennifer Navas-Marquez; middle row: Martin Frank, Carolyn Villemez, Mark Goodwin, Kevin Chian, Iliana Torres, Rebecca Osthus, Stephanie Demma; back row: Robert Price, Martin Mould, Leona Kanaskie, Gary Sieck. Not present: Sarah George.**

## New Regular Members

### \*Transferred from Student Membership

**Bruce Pirooz Ayati**

Univ. of Iowa

**Tieerd Boonstra**

Univ. of New South Wales, Australia

**Jimo Borjigin**

Univ. of Michigan

**Gediminas Cepinskas**

Lawson Health Res. Inst., ON, Canada

**Wen-Shuo Chung**

Univ. of Mississippi

**Pu Duann**

Robert Wood Johnson Med. Sch., NJ

**Emil Nils Egecioglu**

Gothenburg Univ., Sweden

**Carlos Ferreira**

Univ. Extacio De Sa, Brazil

**Mario Gros**

Univ. J J Strossmayer, Osijek, Croatia

**Robert Gros**

Robarts Res. Inst., Canada

**Hans Christian Haverkamp**

Johnson State College, VT

**Hisayoshi Hayashi**

Univ Shizuoka, Shizuoka, Japan

**Chandana Bbandara Herath**

Univ. of Melbourne, Australia

**Joyce Ann Hunter**

Nat'l. Ctr. on Minority Health, MD

**Abd-elaziz Mohammed Hussein**

Mansoura Fac. Med., Dakhliya, Egypt

**Virginija Jazbutyte**

Univ. Clinics, Wuerzburg, Germany

**Jian-Ping Jin**

Wayne State Univ., MI

**Xin Jin**

Columbia Univ., NY

**Allison C. Kleiber\***

Univ. of Nebraska

**Joan C. Krepinsky**

McMaster Univ., ON, Canada

**Nicola Lai**

Case Western Reserve Univ., OH

**Kai Yui Lei**

Univ. of Maryland

**Po Sing Leung**

Chinese Univ. of Hong Kong

**Jie Ma**

Georgetown Univ., Washington, DC

**Gerard McShepard\***

Tennessee State Univ.

**Osamu Miyamoto**

Kawasaki Med. Sch., Japan

**Daisuke Nakano**

Kagawa Univ., Japan

**Rikke Norregaard**

Univ. of Aarhus, Denmark

**Craig S. Nunemaker\***

Univ. of Virginia Health Sys.

**Yuji Ogura\***

St. Marianna Univ., Japan

**Greg Lyle Raymond**

Oceania Univ. Med, Apia, Samoa

**John M. Rinzel**

New York Univ.

**Alejandro Salah\***

New York Univ.

**Amy L. Sindler**

Univ. of Colorado, Boulder

**Joseph J. Smolich**

Royal Children's Hosp., Australia

**Leslie K. Sprunger**

Washington State Univ.

**Zongxiang Tang**

Johns Hopkins Univ., MD

**Yosuke Tojyo**

Health Sciences Univ., Hokkaido,

Japan

**Joost G. Van Den Aardweg**

Medical Center, Alkmaar, Netherlands

**Roberto I. Vazquez-Padron**

Univ. of Miami, FL

**Ravi N. Vellanki**

Toronto Gen. Res. Inst., ON, Canada

**Shipa Vyas-Read**

Emory Univ., Atlanta, GA

**Christopher P. Weis**

Nat'l. Enforcement Invest. Ctr.,

Denver, CO

**Gary L. Westbrook**

Oregon HSU, Portland

**Tao Zhang**

Univ. of California, Davis

**You-Qing Zhang**

Univ. of California, San Diego

**Yi Zhou**

Cornell Univ., Ithaca, NY

## New Student Members

**Johnathon Michael Aho**

Chicago Medical Sch., IL

**Ogugua Anene-Maidoh**

Medical College of Wisconsin

**Chelsea Rae Barrera**

Univ. of Texas, San Antonio

**Abdelhafiz Bashir**

Univ. of Khartoum, Sudan

**Cameron C. Carter**

Colorado State Univ.

**Susanne M. Krug**

Charite Freie Univ./Humboldt Univ.,

Germany

**Ankit B. Patel**

Weill Cornell Med. Coll., NY

**Limor Raz**

Medical College of Georgia

**Chenxu Shi**

Pennsylvania State Univ.

**Deepa N. Talreja**

Oakland Univ., MI

## Deceased Members

**Tage Astrup**

Denmark

**Charles A. Bosworth**

Birmingham, AL

**Nathan R. Brewer**

Potomac, MD

**Ramon D. Buckley**

Pasadena, CA

**Mihai C. Demetrescu**

Irvine, CA

**Eduardo Eidelberg**

Canyon Lake, TX

**Leon C. Isaacson**

Cape Town, South Africa

**Frans F. Jobsis**

Durham, NC

**W.J. Kolff**

Salt Lake City, UT

**James L. Whittenberger**

Weston, MA

## APS Membership Statistics

**Total Membership** 10,235

### Distribution by Employment

(7,508 respondents)

Institution	Total	Percent
Physiology Departments	1,489	21.1
Administration	23	0.3
Clinical	824	11.7
College or University	2,351	33.4
Commercial Companies	256	3.6
Community College or 2-Year Institution	11	0.2
Dental Schools	28	0.4
Government (Inc. V.A.)	251	3.6
High School	5	0.1
Hospitals and Clinics	272	3.9
Insts. and Foundations	187	2.7
Medical Schools	724	10.3
Not-for-Profit Association	12	0.2
Other Preclinical Depts.	323	4.6
Other, please specify:	51	0.7
Private Practice	31	0.4
Public Health and Graduate Schools	81	1.1
Retired	23	0.3
Veterinary Schools	106	1.5

### Distribution by Racial Background and Heritage

(optional Personal Data: 5,409 responders)

Alaskan Native	2
American Indian	10
Asian or Pacific Islander	763
African American	69
Hispanic	196
Multiracial	26
Other	41
Anglo American (non Hispanic)	4,302

### Distribution by Earned Degree

(9,743 respondents—includes 1,392 individuals with multiple doctorate degrees)

PhD	7,953
MD	2,876
DVM or VMD	159
DSc or ScD	100
DrMed or DMSc	30
Edd	21

### Distribution by Gender (optional personal data)

Male	7,327
Female	2,412

### Distribution by Age

(optional personal data)

70+	1,442
60-69	1,697
50-59	2,359
40-49	2,187
30-39	1,792
20-29	664

### Principle Type of Work

(6,443 respondents)

	%
Administration	3.6
Clinical	5.5
Research	79.7
Teaching	11.1

### Distribution by Primary Section

#### Affiliation

(9,619 respondents)

	%
Cardiovascular	23.3
Cell & Molecular	12.5
Central Nervous System	9.0
Comparative	3.9
Endocrinology & Metabolism	8.7
Environ. & Exercise	9.2
Gastrointestinal & Liver	5.5
Neural Control & Autonomic Reg.	5.1
Renal	7.7
Respiration	8.9
Teaching of Physiology	3.3
Water & Electrolyte Homeostasis	2.7

### Distribution by Group Affiliation

Epithelial Transport	1,003
History of Physiology	539
Hypoxia	761
Members in Industry	323
Muscle Biology	1,089
Physiological Genomics	386
Translational Research	350

### Distribution by Primary Specialty

Anatomy	28
Biochemistry	68
Biomedical engineering	34
Biophysics	25
Cardiovascular	1,466
Cellular and tissue	229
Comparative physiology	160
Electrolytes and water balance	177
Endocrines	297
Environment	143
Exercise	191
Gastrointestinal	174

General physiology	4
Immunology	29
Lipids and steroids	39
Liver and bile	31
Minerals bones and teeth	31
Muscle	490
Neural control and autonomic reg.	71
Neurosciences	329
Renal	149
Reproduction	73
Respiration	388
Teaching	29
Transport	33
Other	28

### APS Membership in The Americas

United States of America	7,765
Canada	493
Brazil	100
Mexico	39
Argentina	29
Chile	20
British West Indies	2
Peru	8
Venezuela	4
Colombia	2
Jamaica	2
Netherland Antilles	2
Uruguay	1
Cayman Islands	1
Trinidad	1

### US States with More than 100 Members

(50 states plus District of Columbia Puerto Rico, Guam and US Virgin Islands)

CA	777
NY	512
TX	503
PA	385
MA	351
IL	333
OH	328
MD	324
NC	246
FL	235
GA	230
MI	218
MO	205
WI	201
MN	177
CO	175
AL	168
TN	164

IN	164	<b>APS Membership Outside The</b>	Croatia	7	
VA	162	<b>Americas</b>	Slovenia	7	
NJ	139	(countries with five or more members)	Finland	6	
LA	135	Japan	324	Saudi Arabia	5
CT	133	United Kingdom	183	Egypt	5
AZ	120	Australia	147	Russia	5
WA	118	Germany	125	United Arab Emirates	5
IA	116	France	96		
KY	107	Denmark	72	<i>Other countries represented: Belarus,</i>	
OR	106	China	60	<i>Bulgaria, Estonia, Iceland, Indonesia,</i>	
SC	70	Italy	59	<i>Iran, Kuwait, Lebanon, Luxembourg,</i>	
DC	68	Switzerland	59	<i>Macedonia, Mozambique, Oman,</i>	
MS	68	Sweden	55	<i>Pakistan, Philippines, Romania, Samoa,</i>	
NE	67	Netherlands	52	<i>Serbia and Montenegro, Slovakia,</i>	
WV	67	Taiwan	52	<i>South Korea, Sudan, Ukraine, and</i>	
UT	62	South Korea	47	<i>Vietnam.</i>	
KS	60	Spain	44		
AR	48	Belgium	42	<b>Canadian Provinces with Five or</b>	
OK	47	Israel	36	<b>More members</b>	
NM	47	India	31	Ontario	239
VT	47	Norway	27	Quebec	77
PR	39	Turkey	26	Alberta	76
NV	32	New Zealand	25	British Columbia	48
RI	29	Greece	24	Manitoba	24
NH	29	Thailand	14	Nova Scotia	11
SD	24	Nigeria	13	Newfoundland	10
ME	22	Portugal	13	Saskatchewan	6
DE	21	Czech Republic	12		
HI	18	Malaysia	11		
AK	17	Ireland	11		
ND	16	South Africa	10		
ID	12	Singapore	9		
MT	11	Hungary	9		
WY	10	Austria	8		
VI	1	Poland	8		



From The American Physiological Society

## Get Ready!

Your 2010 APS Membership Renewal is coming to you soon.

If you don't receive yours by the beginning of October, please contact the APS Membership Department. You can e-mail us at [members@the-aps.org](mailto:members@the-aps.org), call us at 301-634-7171 or fax us at 301-634-7264.



## Meet the 2009-2010 Porter Physiology Development Fellows

In 2009-2010 Fellowship year, APS awarded Porter Fellowships to five graduate students nationally. In addition to their graduate work, these students will participate in APS professional development activities and engage in K-12 outreach activities.

**Melissa Blackman, Brandeis Univ.:** Blackman graduated from the Univ. of Maryland, Baltimore County (UMBC) with a Biology degree and is now a fourth-year graduate student in the Neuroscience Department at Brandeis Univ.

**Research:** Blackman's research project will examine synapse formation and function in the mental disorder Rett Syndrome (RTT). The results of her experiments will shed light on the pathophysiology of the disease by determining whether, in RTT, synapse formation and function is altered in the neurons of RTT patients and may underlie some of the symptoms of the disease.

**Heidy Contreras, Univ. of California, Irvine:** Contreras is the 2009-2010 Eleanor Ison Franklin Porter Fellow, a second-year Fellow whose work was rated as exceptional by the review committee. She received her undergraduate and master's degrees from California State Univ., San Bernardino. Contreras is now a fifth-year graduate student in the Department of Ecology and Evolutionary Biology at the Univ. of California, Irvine.

**Research:** Contreras is currently working on dissertation projects elucidating the environmental factors that are most important in determining insect respiratory pattern when insects



**Melissa Blackman**

are placed under controlled conditions. Ultimately, she is interested in testing the water conservation and oxygen toxicity hypotheses related to insect respiration. In a side project, Contreras is also interested in investigating the function of the thoracic and abdominal spiracles in the hissing cockroaches during a specific respiratory pattern.

**Leroy Cooper, Brown Univ.:** Cooper received his undergraduate degree from Clemson Univ. He is now a second-year graduate student in the Department of Molecular Pharmacology, Physiology and Biotechnology at Brown Univ.

**Research:** Cooper proposes to elucidate the cellular and molecular alterations in response to cardiac senescence of both cardiomyocytes and non-cardiomyocytes using the aging rabbit heart as a model system.



**Heidy Contreras**

**Aisha Kelly-Cobbs, Medical College of Georgia:** Kelly-Cobbs received her undergraduate degree from Columbus State Univ. and a Master of Science degree in Biology from the State Univ. of West Georgia in Carrollton. She is currently a fourth-year graduate student in the Department of Physiology at the Medical College of Georgia.

**Research:** Kelly-Cobbs' research focuses on how diabetes alters blood vessels in the brain and how these changes affect stroke outcome and recovery.

**Tanganyika Wilder, Univ. of Illinois at Chicago:** Wilder received her undergraduate degree from Florida A&M Univ. She is now a third-year graduate student in the Department of Physiology and Biophysics at Univ. of Illinois at Chicago.



**Leroy Cooper**



**Aisha Kelly-Cobbs**



**Tanganyika Wilder**

Research: Wilder is studying how post-translational modification, of troponin (Tn), and other myofibrillar proteins by AMP Kinase, plays a role in regulating myocardial contraction. She is studying the biochemical and mechanical implications this mechanism has on cardiomyocytes.

**About the Porter Program:** The Porter Physiology Development Program encourages diversity among

students pursuing full-time studies toward the physiology doctorate and promotes their participation in the Society. Porter awards provide one- to two-year full-time graduate fellowships; the program is open to underrepresented ethnic minority applicants who are citizens or permanent residents of the United States or its territories

Applications are accepted annually for this program, on January 15th, and are reviewed by the Porter Physiology Development Committee. For more information about the Porter program, please visit [http://www.the-aps.org/education/minority\\_prog/stu\\_fellows/porter\\_phy/ov\\_pp.htm](http://www.the-aps.org/education/minority_prog/stu_fellows/porter_phy/ov_pp.htm) or contact Brooke Bruthers, Minority Programs Coordinator, at [bbruthers@the-aps.org](mailto:bbruthers@the-aps.org). ❖

## Seminar on Sharing Strategies to Improve University Scientist Participation in K-12 Science Education

The American Physiological Society (APS) hosted a seminar on *Sharing Strategies in K-12 Science Education* on June 29, 2009 on the campus of the Federation of American Societies for Experimental Biology (FASEB). As the second seminar in the *Sharing Strategies Seminar Series*, four national program directors from locally-based professional scientific organizations presented their efforts in improving university scientist participation in K-12 science education.

Jennifer Presley, Director of Science and Mathematics Education Policy at the Association for Public and Land-grant Universities (APLU), introduced the landscape of challenges addressed by the 2007 National Academies report, *Rising Above the Gathering Storm*. Presley described APLU's Science and Mathematics Teacher Imperative to substantially increase the number and diversity of high quality mathematics and science teachers in middle and high schools. She identified key points in the academic pipeline where faculty can impact teachers. Michael Dougherty, Director of Education for the American Society of Human Genetics (ASHG), provided an example

of a National Science Foundation (NSF) Math and Science Partnership, the Geneticist-Educator Network of Alliances (GENA) in partnership with the National Science Resources Center. Dougherty summarized that the GENA Project has catalyzed several organizational and institutional changes, including the adoption of a society-based statement on the importance of member scientist participation in K-12 science education and formal ASHG recognition of efforts by member scientists to departmental and university administrators.

Katie Engen, a Program Associate with the American Society of Plant Biologists (ASPB) and the ASPB Education Foundation, presented an overview of her organization's member-based volunteer and mentoring projects for students and the public, as well as workshops and exhibit booths at major science teacher conferences. Similarly, Ida Chow, Executive Officer for the Society for Developmental Biology (SDB), highlighted the availability of digital library resources for teaching, as well as outreach and workshop activities especially at SDB's regional scientific meetings.

In attendance were other education program directors and/or executive directors and program officers from the American Society for Cell Biology, American Society for Biochemistry and Molecular Biology, the Howard Hughes Medical Institute, the NSF, and the American Physiological Society. Also represented were AAAS Science and Technology Policy Fellows in the Office of Science Education and the National Center for Research Resources (NCRR) Science Education Partnership Award (SEPA) program at the National Institutes of Health (NIH).

The seminar series is supported by an NIH NCRR SEPA ([www.ncrrsepa.org](http://www.ncrrsepa.org)) grant as part of the APS' Six Star Science Frontiers in Physiology program ([www.frontiersinphys.org](http://www.frontiersinphys.org)). Programmatic information for the seminar series and presentations are available at: [www.frontiersinphys.org/pages/page04g.shtml](http://www.frontiersinphys.org/pages/page04g.shtml) and in the APS Archive of Teaching Resources at [www.apsarchive.org](http://www.apsarchive.org) (search for keywords "Sharing Strategies").

For further inquiries, email Mel Limson, APS K-12 Education Programs Coordinator: [mlimson@the-aps.org](mailto:mlimson@the-aps.org). ❖



**APS members Heddwen Brooks and Zoe Cohen organized the University of Arizona's Physiology Department participation in Physiology Understanding Week 2008 at the Southern Arizona Math and Science FunFest. Faculty, graduate and undergraduate students in the physiology program volunteered for two days to help more than 2,000 elementary and middle school students learn about anatomy and keeping their hearts healthy with exercise.**

## APS Summer Research Teachers Convene to Focus on Effective Classroom Teaching

As part of the year-long 2009 Frontiers in Physiology Fellowship program, 17 science teachers from across the nation took a week-long break from their summer research experience in APS members' research laboratories at the end of July. The research teachers (RTs) convened for the "APS Science Teaching Forum," an intensive week-long workshop retreat at the Airlie Center in Warrenton, VA.

APS Councillor Barbara Goodman (Univ. of South Dakota) and member Shea Gilliam (Wake Forest Univ.) served as Physiologists-in-Residence, providing scientific expertise. Additionally, four past RTs led the instruction as Mentor/Instructors, and included Margaret Shain (Indiana) Becky Evans (Ohio), Randy Dix (Kansas) and Robert Manriquez (Louisiana). Martin Frank, APS Executive Director, welcomed and congratulated the research teachers participating in the 20th year of the APS fellowship program.

The teaching team facilitated sessions using the APS research-based Six Star Science framework for supporting excellence in science education (1). The RTs engaged in APS-developed curriculum units for teaching middle and high school students. Additionally, the RTs explored inquiry-based teaching strategies, integrating technology, and addressing equity, diversity, and learning styles in the classroom. The RTs participated in numerous hands-on laboratory and web-based activities, shared their summer research experiences, evaluated their current teaching

techniques, and collaboratively developed strategies to implement teaching methods promoted both by the National Science Education Standards and each of their own respective state standards (2).

As part of the fellowship this fall, RTs are developing, refining, and field testing their own inquiry-based lab activity that can be used in the science classroom. In partnership with their APS member research hosts, RTs are also producing "Bench to Bedside" primers and podcasts based on the clinical applications and relevance of their summer research work. RTs will be inviting their APS research host into their classroom sometime during the first week in November for a Physiology Understanding (PhUn) Week 2009 event (3). The fellowship concludes with the RTs attending and participating in EB 2010 this coming April in Anaheim. Follow the progress of the 2009 fellowship year at the program's website (4).

The Frontiers in Physiology fellowship program has been sponsored by the APS over the past 20 years, impacting more than 400 teachers and APS mem-



**APS Councillor Barbara Goodman (right center) and member Shea Gilliam (left center) guide a group of teachers in developing an experimental design.**

bers who have volunteered as research hosts and/or Physiologists-in-Residence. The program currently receives additional funding from the National Center for Research Resources (NCRR) Science Education Partnership Award (SEPA), and the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) at the National Institutes of Health (NIH). The NCRR Program Officer of the SEPA program, L. Tony Beck, also attended the Science Teaching Forum for a day to experience the teachers' engagement in the APS professional development program.

For additional information about the fellowship, visit the program's website, and consider hosting and mentoring a science teacher fellow next summer for



**Anne Joy (Texas), Thomas Haren (Ohio), and Denice Gamper (New York) present their work on a poster.**



**L. Tony Beck, NIH NCRR Program Officer discusses the Science Education Partnership Award (SEPA) program with the APS Research Teachers.**



Rona Robinson-Hill (Missouri), Maria Vibandor (Louisiana), Carol Wheeler (North Dakota), and Andrea Tracy (Texas) listen to Mentor/Instructor Randy Dix (Kansas) as he leads the group in designing an experiment to determine the relationship between the length of tubes and flow rate. In the background, Todd McDonald (Missouri) and Suzanne Banas (Florida) work together as another group with Paula Donham (Kansas, not pictured) to determine the effect of the radius of tubes on flow rate.



Diana Cost (Massachusetts), Debra Hasan (Georgia), and Audra Ward (Georgia) determine the effect of viscosity on flow rate. With the data collected among the three types of groups, Poiseuille's Law was then derived.

the 2010 Frontiers in Physiology Professional Development Fellowship (5). Applications are jointly submitted by the APS member and a teacher and are due no later than February 1, 2010. For further inquiries, contact Mel Limson (mlimson@the-aps.org), APS K-12 Education Programs Coordinator. ❖

## References

1. APS Receives Science Education Partnership Award. *The Physiologist*. 51:251, 2008.
2. <http://www.PhUnWeek.org>
3. <http://www.the-aps.org/education/2009rts/index.shtml>

4. <http://www.frontiersinphys.org>

5. National Research Council. *National Science Education Standards*. Washington, DC: National Academy Press, 1996.



Research Teachers, Physiologists-in-Residence, and Mentor/Instructors from across the nation participated in the 2009 Science Teaching Forum as part of the year-long Frontiers in Physiology Fellowship program.

## Online Mentoring Through *MentorNet.net*

Kristin L. Gosselink, University of Texas, El Paso

Mentoring is a critical component in the successful professional development of young scientists. Learning how to successfully navigate different educational and career stages, with the help and support of those experienced in these processes, allows these individuals to become productive and happy teachers, researchers and members of the scientific community. *MentorNet.net* provides a mechanism through which one-on-one mentoring of students and junior faculty is available, with a particular focus on the retention and success of women and others typically underrepresented in science, technology, engineering and mathematics (STEM) fields. *MentorNet* President and CEO, Dr. David Porush, is committed to facilitating relationships that will help to “unleash all the talent in these critical disciplines and enable it to flourish.”

Specifically, *MentorNet* seeks to link experienced professionals in science and engineering with young professionals at the community college, undergraduate, graduate student, postdoctoral or untenured faculty level. The principle method of communication is through email, such that mentor-mentee relationships can develop and be fostered regardless of geographical or time differences. Potential mentors and protégés both complete an online profile form, in which they describe their interests and needs. Mentors are able to identify desired mentee characteristics for matching, and mentees are able to specify areas in which they require assistance and support. Other offerings at *MentorNet.net* include: 1) an E-Forum



**Kristin L. Gosselink**

for discussion of items such as issues related to graduate school, work-life balance or diversity in STEM; 2) a resume database for trainees who are seeking jobs or internships; and 3) resources in support of mentoring, diversity and STEM career development and success. In addition, the profile generator used for matching mentees with mentors may also serve as a networking tool within the *MentorNet* system.

The *MentorNet* program has contributed in a substantial and positive way to diversity in STEM fields, and has enhanced the success of scientists in these areas. Endorsements from previous protégés highlight the increases in knowledge, understanding and confi-

dence that have resulted from their participation in this program. One APS mentee noted “everyone undergoes difficult times during transition phases of one’s career, and the key to success is persistence, dedication and the immense support in all aspects of personal, professional and academic issues.” Personal experiences appear to vary, however, at least partly as a function of academic field. Colleagues of mine in Geology, for example, speak very highly of the program and have established long-term and successful relationships with their mentors and mentees. Neuroscience mentors, in contrast, have been disappointed by matchings with mentees in different and, often, unrelated fields. A number of APS members currently participate in this program and efforts are underway to increase the roster of available physiology mentors. In fact, the APS has become a *MentorNet* partner, through which APS trainee members may participate as protégés and APS members and physiologists may participate as mentors. It should also be noted that *MentorNet* continually seeks additional mentors in specified areas of need, and posts these requests on their homepage. There is currently a need for more mentors in the biological sciences area.

As for my own personal experience with the *MentorNet* program, I have observed many strengths and a few weaknesses but will reserve judgment for the time being. I joined as a mentor in April of 2009 and was matched with a mentee within two weeks. After immediately introducing myself, I received a reply from my new protégé within five days. While not in my immediate area of arguable expertise (he is cardiovascular and I am neuroendocrine), my mentee did fit my requested profile quite closely. Our communications have been few, to date, owing primarily to his pre-defense schedule and a significant time zone difference (he is in China and I am in Texas), but we have been clear in our timelines and I anticipate that our interactions will soon become more consistent. I find that using email allows me to respond thoughtfully to my mentee’s questions, and in my own time. Shortly after being matched with my mentee, I myself joined the *MentorNet* program as an Assistant Professor and potential mentee; I have yet to be matched in this

Kristin Gosselink received her BA from Luther College in Decorah, IA. From 1992-2005, she worked as a technician at the NASA-Ames Research Center near San Jose, before returning to school to complete her MS (1998) and PhD (2001) in Physiological Science at UCLA. From 2001-2005, Gosselink was a postdoctoral research associate at the Salk Institute in San Diego and an Associate Faculty member at MiraCosta Community College in Oceanside. She joined the University of Texas, El Paso as an Assistant Professor in 2005 and served as Interim Director of the Neuroscience and Metabolic Disorders Unit of the Border Biomedical

Research Center in 2007. Currently, she is the Co-Leader of this program and the Orville E. Egbert Endowed Chair in Biological Sciences. Gosselink’s scientific interests bridge the fields of physiology, endocrinology and neuroscience, and her research deals with endocrine responses to external factors. Her laboratory uses physiological, cell biological, molecular and biochemical techniques to study the relationships between nervous system activation and hormone secretion following stress and/or exercise. She is a Research Mentor in the APS Frontiers in Physiology program and a member of the APS Women in Physiology Committee.

capacity, three months down the road.

In my short time as a *MentorNet* participant, I have been impressed with the input and feedback I have received from the program. Upon my initial match, an email was sent which contained suggestions on how to establish a relationship with my new mentee, and resources to aid further in this task. Within the month, I was presented with a potential topic for discussion, and similar messages have been provided every 10 days since. The topics have included networking and time management, creating CVs and presentations, research issues, diversity, and other aspects of career develop-

ment at all stages. Through these efforts, *MentorNet* fosters each mentor-mentee relationship and provides a non-threatening basis for communication as new mentees begin to seek assistance in their career development.

In summary, the *MentorNet* construct and purpose go a long way toward enhancing the success of individuals in the early stages of their STEM careers, especially women and members of underrepresented groups. Limitations to the program include less than ideal matching of mentors and mentees, in some cases, and the small number of available mentors in certain disciplines.

The strengths of this program, however, may far outweigh the weaknesses and include its mission and goals, strong internal program support and available resources, and the ease in establishing and maintaining communication between participants. The Women in Physiology Committee and APS strongly encourage all regular members to sign up as mentors and all trainees to register as protégés. For more information or to sign up, please go to: [www.mentor-net.net](http://www.mentor-net.net) or [www.the-aps.org/careers/careers1/mentor/guide.htm](http://www.the-aps.org/careers/careers1/mentor/guide.htm). ❖

## Communications

### Communications Update

During July and August, the Communications Department distributed three press releases that highlight studies from our journals:

“For Women With PCOS, Acupuncture And Exercise May Bring Relief, Reduce Risks”

*Study finds acupuncture and exercise decrease a key marker for disease;* <http://www.the-aps.org/press/releases/09/29.htm>; (*American Journal of Physiology – Regulatory, Integrative and Comparative Physiology*);

“Army Study Improves Ability to Predict Drinking Water Needs”

*Aim to keep troops healthy, cut cost of operations; may also benefit civilians;* <http://www.the-aps.org/press/releases/09/31.htm>; (*Journal of Applied Physiology*);

“Holding Breath for Several Minutes Elevates Marker for Brain Damage”

*Study Adds to Questions about Whether Free-Diving Is Safe;* <http://www.the-aps.org/press/releases/09/33.htm>; (*Journal of Applied Physiology*)

Among the media outlets that ran online coverage of these releases were *About.com*, *Atlanta Journal Constitution*, *Austin American Statesman*, *Forbes*, *Irish Health*, *MSN*

*Health & Fitness*, *National Health Service (UK) Choices*, *New Scientist*, *Reuters Health*, *Science*, *U.S. News & World Report* and *The Washington Post*. Links to these studies can be found in the press releases.

The department also issued two other releases, one that noted that *Physiological Reviews* has the highest impact factor of any physiology journal. The journal is now number five on the annual Journal Citation Reports (JCR) issued by the Health and Science Business Section of the Thomson Reuters:

American Physiological Society’s “*Physiological Reviews* Ranked Number One Physiology Journal;” *Thomson Reuters’ 2008 metrics rank journal first in physiology;* <http://www.the-aps.org/press/releases/09/30.htm>.

The other highlighted the APS conference *Sex Steroids and Gender in Cardiovascular-Renal Physiology and Pathophysiology* in Colorado in July. The release highlighted recent research into the influence testosterone may play in having a stroke.

“One Disease, Two Effects: Stroke;” *The risks and outcomes are not the same in both sexes;* <http://www.the-aps.org/press/releases/09/32.htm>.

The department issued two new *Life Lines* podcast episodes. Episode 23 “Cool Water” featured Mark Knepper, Heinz Valtin and Samuel Cheuvront, who discussed the ever-important question: “How much water should you drink?” The episode also has brief summaries of a *Journal of Applied Physiology* study on whether the Cheetah Flex Foot prosthetic device gives a runner who is a bilateral amputee an unfair advantage and an *American Journal of Physiology – Heart and Circulatory Physiology* study in which adult bone marrow stem cells were used as a non-invasive therapy to repair cardiac tissue.

In Episode 24, “Pregnancy & Exercise,” Linda May and Kathleen Gustafson talked about their research to determine whether, when pregnant women exercise, it benefits the fetus. The episode also includes a summary of a study from the *American Journal of Physiology – Regulatory, Integrative and Comparative Physiology* that finds a way to diagnose overtraining syndrome in horses by measuring the secretion of nocturnal growth hormone.

The department also continues to develop an APS Wiki and the PhysiologyInfo pages. Stay tuned! ❖

## APS Leadership Meets With Congress

On July 7, 2009, APS President Gary Sieck, Past-President Irving Zucker and President-elect Peter Wagner came to Washington, DC to meet with Members of Congress to discuss federal funding for research at the National Institutes of Health, National Science Foundation, NASA and the department of Veterans Affairs.

Sieck, Zucker and Wagner thanked Members of Congress for their support of federally funded research, particularly in the stimulus legislation passed earlier this year. While the stimulus money will fund many exciting research projects and improve infrastructure over the next two years, they also outlined concerns about what will happen to scientists when the stimulus funding expires in FY 2011. The APS leadership recommended predictable, sustainable growth in research budgets rather than the current pattern of “boom and bust” cycles, where rapid budget growth is followed by periods of flat funding. In addition to the challenges that labs have finding continuous funding sources, they explained that concerns about the sustainability of research funding may discourage young scientists from pursuing careers in academia, leading to the loss of a generation of talented researchers.

In the Senate, Sieck, Zucker and Wagner met with Senator Mike Johanns (R-NE), and staff in the offices of Senators Daniel Inouye (D-HI) and Ben Nelson (D-NE). In the House of Representatives, they met with staff for Representatives Brian Bilbray (R-CA), Todd Tiahrt (R-KS) and Frank Wolf (R-VA). The meetings took place at a critical point in the appropriations process,



**APS Past-President Irving Zucker, President-elect Peter Wagner and President Gary Sieck in front of the US Capitol.**

as lawmakers will consider funding levels for most government agencies and programs in the next several weeks.

## AMP Hayre Fellows Announced

On July 15, Americans for Medical Progress announced the 2009–2010 Hayre Fellows in Public Outreach: Gillian Braden-Weiss and Breanna Caltagarone of the University of Pennsylvania School of Veterinary Medicine, and Megan Wyeth of the David Geffen School of Medicine, UCLA.

The Hayre Fellowship sponsors young adults to engage in peer-education projects supportive of humane animal research. Braden-Weiss and Caltagarone will work together to develop an outreach program using the theme “Thank a Mouse” to highlight how animal research helps pets. Wyeth, who is active in the UCLA group Pro-Test for Science [<http://www.ucla-pro-test.org/>], will expand on UCLA’s efforts and help other universities follow UCLA’s lead.

The Hayre Fellowship is named in honor of the late Michael D. Hayre, DVM, DACLAM, who served on the AMP Board from 1997 to until his death in 2001. The mission of the fellowship program combines two topics to which Hayre was committed: advocating for research and mentoring the next generation.

Tom Holder, who was the inaugural Hayre Fellow, brought his expertise in grassroots research advocacy to the U.S.S from his native U.K. Holder was a key player in the Pro-Test movement. As a Hayre Fellow he founded Speaking of Research [<http://www.speakingofresearch.org/>] and toured the country speaking at universities and supporting the formation of college pro-research groups. In April 2009, he was an organizer and master of ceremonies for the first major U.S. pro-biomedical research rally, which attracted over 700 participants.

AMP had such a competitive pool of applicants this year that it made a supplemental fundraising push so it could support more than one fellow. As a result, three promising Fellows will undertake outreach projects in 2010. For more information about this program, visit the AMP website at [www.ampprogress.org/HayreFellowship](http://www.ampprogress.org/HayreFellowship). ❖



**APS President-elect Peter Wagner, President Gary Sieck, Senator Mike Johanns (R-NE) and Past-President Irving Zucker.**



**APS Past-President Irving Zucker discusses NIH funding with Senator Mike Johanns (R-NE).**



## Animal Care and Experimentation

During much of 2008, the ACE committee developed recommendations submitted on behalf of the APS to a National Academy of Sciences committee charged with updating the Institute for Laboratory Animal Research's *Guide for the Care and Use of Laboratory Animals*. The APS recommendations emphasized the advantages of performance-based standards to ensure animal welfare and the need to take approaches that

**Timothy I. Musch, Chair**

minimize regulatory burden. Other points of emphasis in the APS statement included:

- the need for IACUCs to make informed determinations about **study design**;

- that references on **minimizing pain and distress** should be updated and made accessible through the web, but the updated *Guide* should not try to offer uniform or objective ways to measure them;

- that the updated *Guide* should retain the current guidance on providing **environmental enrichments**. This guidance states that such enrichments should be used when they are known to be beneficial without compromising animal welfare or study design, and that it is permissible to exercise professional judgment in making determinations about whether or not to implement enrichments;

- that the current definition of **major survival surgery** as the penetration of a body cavity should be revised in light of new minimally invasive surgical techniques to emphasize instead the actual pain or distress caused by a given procedure;

- that recommendations concerning **housing densities, temperatures, humidity levels, and environmental enrichments** should be revised so that these factors are seen as part of an integrated environment.

The Committee to Update the *Guide* began its work in September 2008. Members of the ACE committee participated in a September 26, 2008 open forum where the individuals and organizations offered comments to representatives of the *Guide* update panel. Representatives of the ACE Committee also attended two other public hearings on the *Guide* that were held in Irvine, CA (October) and Chicago, IL (November). The comprehensive APS position statement was submitted in January, 2009. The *Guide* update is expected to take about two years with the updated *Guide* completed in September 2010.

**Transition team recommendations:** In January 2009, the APS contributed recommendations to the Obama administration transition team's NIH review committee. The APS urged the new administration to publicly acknowledge the need for research involving animal models of disease and to provide protection to researchers engaged in these activities.

**Concerns about a presidential appointee:** The APS raised concerns about President Obama's selection of Cass R. Sunstein as the Administrator of the Office of Information

and Regulatory Analysis. On February 12, 2009, APS wrote to John Holdren, the Director-Designate of the Office of Science and Technology Policy, about Sunstein's position that animals should be granted legal rights and that the use of animals in research requires additional regulatory restrictions. On May 19, 2009, APS wrote to Chairman Joseph Lieberman and Ranking Member Susan Collins of the Senate Committee on Homeland Security and Government Affairs, requesting further clarification of Sunstein's views on these subjects prior to his confirmation. Although the Senate Homeland Security Committee supported his nomination, but a vote on his confirmation was delayed until at least September because several Republican Senators were concerned by Sunstein's positions on agriculture, animal rights, and hunting.

**Clarifying OLAW requirements:** The ACE Committee wrote a letter to the editor that was published in the February 2009 issue of *Lab Animal*. The letter challenged a column about protocol review that appeared in the June 2008 issue in which several commentators voiced the opinion that IACUCs are required to re-review every instance in which an investigator performs fewer procedures than were contained in the original protocol. The APS letter argued that since experimental work is inherently dynamic, re-review should not be required for minor protocol deviations that have no impact on animal welfare. NIH's Office of Laboratory Animal Welfare (OLAW) published a companion letter in the same issue of *Lab Animal* stating that it leaves to the IACUC to "clearly define and communicate to investigators what it considers to be a significant change, or its mechanism for determining significance."

**Random source dogs and cats:** The ACE Committee is reviewing the recommendations of the ILAR Committee on Scientific and Humane Issues in the Use of Random Source Dogs and Cats in Research. This report found strong evidence of an ongoing need for random source dogs and cats animals in several important areas of NIH-funded research. However, due to continuing problems with Animal Welfare Act enforcement, the panel also called for the replacement of Class B dealers with other sources of supply for these animals. This recommendation was tempered with an acknowledgement that it may be difficult to obtain certain kinds of animals from sources *other* than Class B dealers.

**EB 2010:** The ACE Committee will sponsor a public affairs symposium slot at EB 2010 in Anaheim on Trends in Animal Rights Activism and Extremism. Speakers will include UCLA Senior Counsel Amy Blum (Federal Freedom of Information Act and California's open records law); Univ. of Iowa Director of Animal Resources Paul Cooper (How institutions should respond to an animal rights attack); and UCLA researcher and US Pro-Test founder David Jentsch (Responding to threats against science by going on the offense).

Council unanimously approved a motion to allocate up to \$15,000 for 2010 to support projects related to animal rights law.

Council unanimously approved a motion to authorize the ACE Committee to consult with other stakeholders about how best to ensure appropriate regulatory oversight of rats, mice, and birds.





## Awards Committee

Based on the number of applicants, the APS Postdoctoral Fellowship in Physiological Genomics is clearly the most attractive as it receives the most applications of all the awards. The number of applications for the 2008 APS Postdoctoral Fellowship in Physiological Genomics was 24, which is 12 more than received in 2007, but similar to the number of applications received in January 2006 (25 applicants).

**Kathryn Sandberg, Chair**

The number of applications received for the Research

Career Enhancement Awards (RCEA) continues to be greater in the spring than in the fall. There were 11 applicants in the spring of 2008, which is five more than the six received for the fall deadline.

The Teaching Career Enhancement Award (TCEA) continues to receive the fewest number of applications. There was one application in the spring of 2008 and none in the fall, which is similar to the number of TCEA applicants in 2007 and 2006. In general, there were more applicants applying for the named awards in 2008 compared to 2007. Five individuals applied for the Arthur C. Guyton Award for Excellence in Integrative Physiology compared to one application in 2007.

Five applications were received for the Lazaro J. Mandel award and seven for the Shih-Chun Wang award. In 2007, only three applicants applied for the Mandel and seven for the Wang award.

The gender distribution of the applicants for the 2008 APS Postdoctoral Fellowship Award was 50% women (12 women) and 50% men (12 men). The gender distribution of the award winners was 100% men.

The gender distribution of the applicants for the RCEA was 35% women and 65% men. The gender distribution of the award winners was 25% women (two women) and 75% men. For the 2008 TCEA competition, one woman applied and was recommended for this award.

## Review Criteria

Standardized review and scoring criteria are employed for all of the awards. Such standardization makes identification of outstanding applicants grounded on objective and weighted factors, and facilitates the job of the Committee. In 2008, grant applications were initially reviewed either by the whole committee or by assigned reviewers.

Scores were submitted online where they were tabulated by the APS Executive Office and distributed to the Committee in advance of the conference call. At the beginning of the conference call, applications were triaged that were deemed not competitive based on their average and median scores, the number of awards available and their ranking by individual reviewers. After an application was discussed, all participating committee members re-scored the application and submitted their scores, the scores were re-tabulated, and the award recipients were identified.

The APS Awards Committee met at the EB09 meeting. During this meeting, the Committee discussed ideas on how to

increase the number of applications and how to improve the review procedure. A few changes in the review process were discussed at that meeting and include: finding a way to ensure that a four-page NIH-type bio-sketch rather than a full CV from the mentor and/or applicant are submitted in the application; calculating the median of reviewers' scores and determining reviewer ranking order; allowing each reviewer the opportunity to discuss their top three ranked candidates; and having all reviewers read all of the RCEA and TCEA applications and a subgroup of reviewers read all of the applications for a specific named award (e.g., Wang Award).

## 2008 Award Recipients

**Postdoctoral Fellowship Award in Physiological Genomics:** The Awards Committee received 24 applications for the Postdoctoral Fellowship Award in Physiological Genomics. Applications were generally of exceptional quality, with six out of 24 achieving average scores less than 2.0. The Committee recommended awarding two fellowships this year, and Council supported this recommendation. The recipients were Ralph J. van Ort, Baylor College of Medicine, Houston, TX; and Sean M. Garvey, Univ. of Virginia, Charlottesville.

The APS Postdoctoral Fellowship in Physiological Genomics has been established in recognition of the fact that many advances in genomics ultimately require a functional understanding in the context of the organism, and special training is needed to conduct this type of research. The ideal candidate is one who has completed outstanding work in a top-flight graduate program (e.g., molecular biology, genetics, etc.) and who has the intention of employing organ system approaches during his/her postdoctoral training. Alternatively, a well-trained graduate in integrative physiology might wish to expand his/her work through the use of molecular biological tools and genomics.

A central criterion of the postdoctoral project requires the scientist to use the tools of cellular and molecular biology in the setting of the whole animal. [Assays and/or analyses can be performed in vitro on material harvested from control and experimental animals, but material cannot solely be harvested and then exposed to the control and experimental conditions in vitro].

A candidate for this program should identify a laboratory within the United States and a sponsor who is an APS Member in good standing under whose supervision a project in organ system physiology and molecular biology/genomics can be combined. The laboratory host/sponsor must be a member of the American Physiological Society, and it is anticipated that award recipients will join the Society. The award funds cover a two-year period and include an annual stipend for the first year of \$36,000, plus a trainee allowance of \$3,500; and a second-year stipend of \$38,000, plus a trainee allowance of \$3,500. The award does not include an indirect cost reimbursement. Adequate progress must be demonstrated by a written report submitted to the APS following the first year before a second year stipend and trainee allowance can be awarded.

**The Spring Research Career Enhancement (RCEA) and Teaching Career Enhancement (TCEA) Awards:** For the April 2008 deadline, 11 RCEA and one TCEA applications were received. The Awards Committee recommended funding five RCEA awards of approximately \$4,000 each to Maureen Basha, Drexel Univ., Philadelphia, PA; Jason R. Carter, Michigan Technological Univ.; Michael S. Hedrick, California State University, East Bay, Hayward; Alexander A. Mongin,

Albany Medical College, NY; and Thomas H. Reynolds, IV, Skidmore College, Saratoga Springs, NY. One TCEA award was offered to Reem R. Abraham, Melaka Manipal Medical College (Manipal Campus), Karnataka, India.

**The Fall Research Career Enhancement (RCEA) and Teaching Career Enhancement (TCEA) Awards:** For the September 2008 deadline, six RCEA applications were received. The Awards Committee recommended funding three RCEA awards of approximately \$4,000 each to Philip Clifford, Medical College of Wisconsin, Madison; Ann Theresa Hanna-Mitchell, Univ. of Pittsburgh, PA; and Jason Vescovi, York Univ., Toronto, Ontario.

No applications for the TCEA award were submitted.

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

The Awards Committee received five applications for Arthur C. Guyton Award. The recipient was Kevin D. Hall, Univ. of Alberta, Edmonton, AB, Canada. Five applications for the Lazaro J. Mandel Award were received. The recipient was Kenneth R. Hallows, Univ. of Pittsburgh School of Medicine, Pittsburgh, PA. The Awards Committee received seven applications for the Shih-Chun Wang Award. The recipient was Paul Fadel, Univ. of Missouri, Columbia.

Council accepted the Awards Committees report.



**Nansie Anne McHugh,  
Chair**

## Career Opportunities in Physiology

### Career Development at EB2009

*2008 Session Web Resources:* Multimedia presentations for the EB 2008 Careers Symposium, “Mid-career Transitions: Choices and Challenges,” were edited and posted at the APS website and catalogued at the APS Archive of Teaching Resources for wide dissemination. The resources include talks by Marian R.

Walters, Penn State Capital College (“How to manage mid-career transitions: voluntary and involuntary”), David M. Pollock, Medical College of Georgia (“Transitions from industry to academia [and vice-versa]”), Edward J. Zambraski, US Army Institute of Environmental Medicine (“Scientific career opportunities in the government/military”), and D. Neil Granger, Louisiana State University Health Sciences Center, Shreveport, (“Assuming administrative/leadership positions while maintaining an active research program”).

*2009 Career Symposium:* In 2009 the Career Opportunities in Physiology, Trainee Advisory, and Women in Physiology Committees again coordinated the topics of their sessions to provide a complimentary set of career advancement sessions for physiologists. Committee members Caroline Sussman and

Kamal Rahmouni organized the session, entitled, “Rising and Surviving: Elucidating Tenure and Promotion in Multiple Career Paths.” It featured speakers with experience in academia of different types and industry. Attendees gave the presentations high “usefulness” ratings. The workshop drew a moderate-sized group of about 30 attendees.

### 2010 Career Symposium

In 2010, the Committee will focus its EB symposium on government careers in physiology. The session is being organized by Committee members Kathy Ryan and Kamal Rahmouni and is entitled, “Government Careers in Physiology Revealed.”

*2010 EB Career Symposium Description:* There are many career opportunities in the various branches and agencies of the US government. Yet many young scientists are unaware of employment possibilities in the government and have no information regarding these career paths. The goal of this symposium is to elucidate these issues as they apply to several settings including NIH, EPA (Environmental Protection Agency), FDA and DoD (Department of Defense). The target audience is students and postdoctoral fellows, as well as early career and established investigators seeking information on job opportunities and career development processes in the government. Specific issues that will be addressed include: 1) possibilities for employment as a bench scientist in both civilian and military laboratories; 2) opportunities to utilize critical thinking and research skills in the administration/regulation of science and scientific products; 3) advantages and disadvantages of a government career; 4) successful strategies to navigate the hiring maze; and 5) citizenship requirements and opportunities for non-US citizens. Following the presentations, there will be an opportunity for attendees to further discuss the topics described above with the invited speakers in a general panel discussion session.

### Career Presentations at APS Conferences

In 2008, the Committee presented a two-hour workshop at the APS Conference, “2008 APS Intersociety Meeting: The Integrative Biology of Exercise V,” using the materials from the Professional Skills Courses. The workshop, “Writing your first papers: The ‘ins’ and ‘outs’ of authorship,” was presented by Committee member Michael Sturek and focused on how authorship on manuscripts is determined and engaged participants in an authorship case study. Presenters also shared an overview of the career development resources offered by the APS, including the new Professional Skills Courses. In the coming year, the Committee is developing a menu of career session topics and resources to share with those developing proposals for future APS conferences so that proposals can integrate APS-developed career materials from the start. In 2009, Committee member Magdalena Alonso-Galicia will present a similar workshop at the “Sex Steroids and Gender in Cardiovascular-Renal Physiology and Pathophysiology” conference.

### Undergraduate Summer Fellow Research Program

The 2008-09 UGSRFs completed their fellowship year by attending EB 2009 in New Orleans. Of the 24 fellows, 23 (96%) attended EB and 23 (96%) submitted an abstract. The 2008-09 UGSRFs, like those in the past, competed successfully in the David S. Bruce Excellence in Undergraduate Research Award program, winning one or more Bruce Awards in each year of the award program.

**2009-10 Program Update:** For the 10th year of the program, 50 applications were received, a slight increase from 48 last year. 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; these students were subsequently approved by Council ballot. Thus, 48% of the applications were funded, which still allowed for high selectivity on the part of the Committee. Over the 10-year history of the program, the program received 477 applications for the 156 awards granted, with the average funding rate of one-third (33%).

Evidence continues to indicate that the program is meeting the "short-term" goals of the program. For instance, this year, 23 fellows attended the EB 2009 meeting, bringing the nine-year total to 123 of 133 total awardees (92%) who attended EB, an APS national conference, or a comparable national meeting. At EB 2009, 23 of the fellows had abstracts, with nearly all being first author on their abstract. Thus, the initial 133 awards (first nine years) have fostered research experiences sufficiently successful to produce 121 abstracts at national meetings.

### Undergraduate Orientation Session at EB09

The first orientation session at EB 2009 attracted 50+ undergraduate students. All undergraduate students who submitted a first author physiology poster were invited and announcements were posted in emails to the Trainee listserv, ACDP, and All-APS. Members of the Careers and Trainee Advisory Committees gave the session presentations.

### APS Website or Facebook – "Career Designer"

The Committee is generating a list of keywords for each APS physiologist biography at the APS Career Web. The Committee is exploring the idea of creating a Facebook or website application that would generate interest in learning more about physiology careers ("Could you be a physiologist?") The student could click on career keywords that interest him/her and see the biography of an APS physiologist whose career deals with those interests.

### Career Outreach PowerPoint Presentation Package

In 2008, Council authorized the Committee to develop interactive, online physiology activities to enhance the PhUn Week website and engage younger children (early readers) in doing simple physiology experiments and to engage their interest in science careers. The Education Office is working to develop online exercise experiments that can be used by elementary students. For example, students can change the speed at which a jogger (or research animal) runs and make predictions about how this will affect his/her heart rate and respiration. This activity would be coordinated with the current PhUn Week theme.

### APS Careers Web Site

Links for this site of more than 1,500 pages are checked on an annual basis to assure that the resources can be easily accessed. Web statistics on usage are gathered quarterly by the Education Office. The Committee also is exploring the idea of building an online "career exploration" tool that can help students identify potential physiology careers that match their interests and talents. As a first step in this process, the Committee plans to develop a list of physiology career options and a description of each career.

### Working with other undergraduate research programs

The APS has had great success with its UGSRF program. The Committee believes that the APS can act as a catalyst to both strengthen and expand other undergraduate research programs, especially those managed by other FASEB societies. The Career Opportunities in Physiology Committee could host a networking meeting at EB for those faculty members who are key players in their institution's undergraduate research fellowship programs. The meeting would be a sharing session to discuss both successful strategies and persistent problems, to share evaluation methods and tools, and to plan future joint events and activities for undergraduates at EB. Possible outcomes of this networking might be:

- joint undergraduate skills training sessions at EB on professional skills topics, such as developing a hypothesis-driven research project, conducting a literature search, or writing methods and results sections;

- support materials and/or workshops for mentors and advisors on working with undergraduate students;

- sharing of instruments to allow collaboration on multi-program evaluations;

- working with MARC programs to increase minority student involvement in undergraduate physiology research.

Council unanimously approved the concept that the Careers in Physiology Committee develop a podcast/video contest to engage undergraduate students in physiology.



Peter K. Lauf, Chair

### Chapter Advisory Committee

The Chapter Advisory Committee (CAC) has the responsibility of recruiting, overseeing, and assisting new state chapters of the American Physiological Society. This oversight includes reviewing and approving of the bylaws and application for non-profit status of the prospective new chapters. Its chair has taken an active role in calling upon physiologists throughout the US to follow suit in creating new state chapters.

**Chapter Status/Activity:** Over the last year, three state chapters (Arizona, Tennessee, and Puerto Rico) of the American Physiological Society have emerged and were added to the existing chapters (Ohio, Oklahoma, Gulf Coast, Nebraska, and Iowa) bringing the CAC membership to eight. Four chapters have current and approved bylaws (Ohio, Nebraska, Arizona, and Iowa), three chapters have bylaws in revision/review (Gulf Coast, Oklahoma, and Tennessee), and one chapter (Puerto Rico) has submitted bylaws for review. Seven chapters held meetings with over 393 in attendance and 153 abstracts/posters presented.

**Non-profit Status:** Four chapters have achieved conditional 501(c)(3) non-profit status (Ohio, Nebraska, Gulf Coast, and Iowa). Two chapters participated in PhUnWeek activities (Ohio and Nebraska) and one chapter had a golf outing (Ohio). In the future it is our goal that all chapters will engage in such

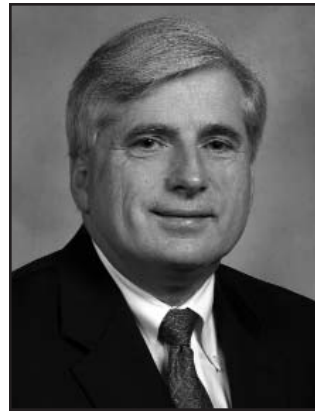
activities to encourage cohesion in the societies.

**Awards:** There were 13 scholarly awards (four undergraduate, six graduate, and three postdoctoral) presented to worthy student members by three chapters—Ohio, Nebraska, and the Gulf Coast.

**Current CAC Issues:** Several chapters will be reviewing and updating their bylaws in the near future. The Chapter Handbook will be reviewed and edited as necessary prior to finalization before next year's CAC meeting. All chapters are being encouraged to participate in APS functions such as PhUn Week.

**Conclusion:** Much has been accomplished with the creation of three new chapters this year. Physiology has made its presence known to many people across the country due to the tireless commitment of the CAC members.

Council unanimously approved the bylaws of the Tennessee Physiological Society.



Joey P. Granger, Chair

## Committee on Committees

The Committee on Committees (CoC) is composed of representatives elected by the 12 APS Section Steering Committees and two Councilors who serve as Chair and In-coming Chair. Its primary duty is to nominate individuals to serve on APS standing committees and on outside bodies where the APS is represented. CoC members are dedicated to the concept that their role is twofold—to identify and promote members of their section who might serve on committees, but then to set aside sectional affiliations to nominate the best-qualified individuals to serve the Society. CoC members also promote diver-

**Table 1. Section Affiliations of Applicant Pool and New Appointees.**

Section	2007	2008	2009	New Appointees	All APS Members
Cardiovascular	24 (21.5%)	24 (23%)	28 (24%)	6 (12.5%)	29%
Cell & Metabolism	6 (5.5%)	7 (6.5%)	12 (10%)	2 (4%)	12%
Central Nervous System	4 (3.5%)	6 (6%)	3 (2.5%)	3 (6%)	9%
Comparative	5 (4.5%)	3 (3%)	8 (6.5%)	4 (8%)	4%
Endocrine/Metabolism	9 (8%)	8 (7.5%)	5 (4%)	1 (2%)	8%
Environmental/Exercise	11 (10%)	18 (17.5%)	7 (6%)	5 (10%)	9%
Gastrointestinal & Liver	12 (11%)	2 (2%)	8 (6.5%)	5 (10%)	5%
NCAR	6 (5.5%)	7 (6.5%)	7 (6%)	4 (8%)	5%
Renal	8 (7%)	7 (6.5%)	11 (9%)	5 (10%)	7%
Respiration	7 (6.5%)	5 (5%)	14 (12%)	5 (10%)	9%
Teaching	11 (10%)	7 (6.5%)	7 (6%)	4 (8%)	3%
Water/Electrolyte	9 (8%)	9 (8.5%)	7 (6%)	4 (8%)	3%
No Affiliation	0	1 (1%)	1 (1%)	0	4%
<b>TOTAL</b>	<b>112</b>	<b>104</b>	<b>118</b>	<b>48</b>	<b>10,276</b>

**Table 2: Other Characteristics of the Applicant Pool.**

	2008	2008	New Appointees	All APS Members (%)
Under age 45	57 (54%)	22 (19%)	20 (42%)	33%
Women	37 (35%)	46 (39%)	22 (46%)	14.5%
Reside outside of the US	10 (9.5%)	8 (7%)	2 (4%)	21%
Employed by Industry	2 (2%)	1 (1%)	1 (1%)	2%
Trainees	18 (17%)	8 (7%)	1 (2%)	12%

\*This number refers to student members. Some postdoctoral trainees are regular members of APS.

sity and the involvement of young APS members in the committee structure. If you are interested in serving on the Committee on Committees, please contact your section chair.

**Characteristics of the 2008 Applicant Pool:** The CoC was pleased with the pool of applications for committee vacancies this year. The number of applicants was higher by approximately 12% from last year. Six of the 12 Sections showed an increase in the number of members who applied for committee vacancies. The CV Section again had the most nominees (28). Although the number of candidates under the age of 45 was less this year than last, this may have been due to the limited number of trainee/young investigator positions that were available this year.

**Results from CoC and Council Meetings:** The CoC and Council identified 48 individuals to serve on APS standing committees and four individuals to serve as APS representatives to other FASEB committees and associated organizations (i.e., AAMC). The joint efforts of CoC and Council led to increase the number of members on several committees including the Animal Care and Experimentation Committee, the Membership Committee, and the Women in Physiology Committee.

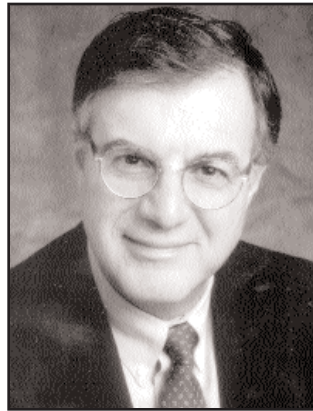
Table 3 shows the section affiliation of the APS Standing Committee members in 2008 and 2009 and the composition for 2010 based on the CoC and Council deliberations.

**Planning for 2010**

The CoC hopes that many APS members will consider serving the Society as a member of one of its standing committees.

Applications can be submitted via the APS website, and are due along with an Endorsement form by January 15, 2010. 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 Committee on Committees report.



**Francis Belloni, Chair**

## Communications Committee

**EB '09 Media Coverage:** For the 2009 EB meeting we produced 11 press releases and disseminated them to the press. Topics ranged from the development of new antedugs to computational modeling of Alzheimer's pathways to the benefits of laughter for individuals with diabetes.

During the first 24 hours of release our tracking service

**Table 3: Section Affiliation of APS Standing Committee Members (not including Committee on Committees, Liaison with Industry Committee, Section Advisory Committee, and Trainee Advisory Committee)**

Section	2008	2009	2010	All APS Members (%)
Cardiovascular	34 (25%)	28 (19.5%)	29 (19%)	29%
Cell & Metabolism	11 (8%)	13 (9%)	11 (7%)	12%
Central Nervous System	10 (7.5%)	10 (7%)	11 (7%)	9%
Comparative	4 (3%)	4 (3%)	8 (5%)	4%
Endocrine & Metabolism	7 (5%)	9 (6.5%)	9 (6%)	8%
Environmental & Exercise	11 (8%)	12 (8.5%)	15 (10%)	9%
Gastrointestinal & Liver	9 (6.5%)	9 (6.5%)	9 (6%)	5%
NCAR	6 (4.5%)	9 (6.5%)	12 (8%)	5%
Renal	10 (7.5%)	15 (10.5%)	16 (10%)	7%
Respiration	5 (3.5%)	4 (3%)	8 (5%)	9%
Teaching	7 (5%)	8 (3.5%)	9 (6%)	3%
Water/Electrolyte Homeostasis	21 (15.5%)	22 (15.5%)	18 (11%)	3%
Total	135	143	155	10,276

**Table 4: Other Characteristics of APS Standing Committee Members (not including Committee on Committees, Liaison with Industry Committee, Section Advisory Committee, and Trainee Advisory Committee).**

	2008	2009	2010	All APS Members (%)
Under age 45	38 (28%)	51 (35.5%)	38 (25%)	33
Women	41 (30%)	52 (36.5%)	64 (41%)	14.5
Reside outside of the US	12 (9%)	12 (8.5%)	14 (9%)	21
Employed by Industry	5 (3.5%)	4 (2.5%)	4 (3%)	2
*Trainees	10 (7.5%)	16 (11%)	2 (1%)	12

\*This number refers to student members. Some postdoctoral trainees are regular members of APS.

logged more than 250 mentions of the studies on TV and radio. Print and internet coverage was likewise extensive. News of the studies profiled at EB were reported on by the BBC, UPI, Reuters, *USAToday*, WebMD, *Forbes*, *Newsweek*, *Science News*, and *Washington Post*.

**EB Symposium:** *The Wiki Wiki Workshop: Your Fast Track to the New APS Website* provided participants with a hands-on tutorial introduction to the APS wiki. The nearly two dozen attendees heard from broadcast journalist Meg Farris, CBS affiliate Channel 4 in New Orleans, Marin Allen, Deputy Associate Director for Communications and Director of Public Information at the National Institutes of Health, and Christie Nicholson, a freelance science journalist, podcast and Internet video series producer and host, and contributing editor at *Scientific American's* online service, SciAm.com.

**Releases:** For the period, staff wrote and promoted 19 scientific releases versus 13 the prior year. Three of the releases highlighted recent journal articles: "Chemical Used in the Production of Intravenous (IV) Bags and Other Medical Equipment Can Reproduce Complications Seen in Patients Following Extracorporeal Circulatory (EC) Support," based on an article published in the *American Journal of Physiology—Heart and Circulatory Physiology*; "Babies Born to Native High-Altitude Mothers Have Decreased Risk of Low Birth Weight," based on findings published in the *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology*; and "As Good As it Gets: Octogenarian Muscles Don't Get Stronger With Exercise," from research published in the *Journal of Applied Physiology*.

**Podcasting:** Two new podcasts were released in the current period, which brings the total number of podcast the society has released to 21. Podcast downloads continue to rise.

**AAAS Mass Media Fellow:** The APS 2009 Mass Media Fellow is Vanessa McMains of the Graduate Partnership Program of the National Institutes of Health and Johns Hopkins University. Her fellowship is at the *Chicago Tribune*.

Council accepted the Communications Committee report.



P. Darwin Bell, Chair

## Conference Committee

**Current and Future Meetings:** The initial goal of the committee was to have two high quality APS Conferences per year. Two conferences were held in 2009: "ET-11 APS International Conference on Endothelin," September 9-12, Montreal, Canada, and "Sex Steroids and Gender in Cardiovascular-Renal Physiology and Pathophysiology," July 15-18, Broomfield, CO. For 2010 there will be an APS

Intersociety Meeting: "Global Change and Global Science: Comparative Physiology in a Changing World," August 4-7, Westminster, CO, and "Inflammation, Immunity and Cardiovascular Disease," Westminster, CO. The dates for

later conference have not yet been set. The conference "Aldosterone the ENaC/Degeneration Family of Ion Channels: Molecular Mechanisms and Pathophysiology," will be held in 2011, and the Committee has approved and sent to Council for approval, a meeting entitled: "Autonomic Regulation of Cardiovascular Function in Health and Disease."

**Website for Proposal Submission:** At last year's Conference Committee meeting, website submission of proposals was discussed. Some improvements were recommended which included items such as a field for: "what is the scope of the meeting" in 50 words or less; how will you include career-developmental workshops; how do you plan to incorporate junior investigators; and what are the competing meetings? There were other suggestions that have improved the quality of the information that is provided in the application without making it too cumbersome. This has allowed the Committee to more thoroughly evaluate applications. There was discussion as to how to continue to promote and emphasize of junior investigators, gender, and ethnicity participation and representation.

**Criteria for APS No Cost Sponsorship:** It was agreed that the science should be within the scientific area of APS. The program should have minority representation, junior researcher representation, and gender balance and should be scientifically appropriate for the Society. There should be opportunities for training of junior investigators (mix of presentations/workshops). In return for allowing the APS moniker to be used, meeting organizers must supply APS with the meeting registration list free of charge.

**Conference Financing:** Since contributions from industry are decreasing, and with the downturn in the stock market and economy, there are continued concerns about how to make the APS Conferences less costly and more self sufficient. The Committee emphasizes to the conference organizers that they need to do everything possible to secure additional funding. Based on the comments received from NIH on the ET-11 conference, there is concern about how NIH is evaluating proposals for conference grants. The Committee requested to see the grant applications and NIH's responses for the two 2009 conferences. There was discussion about possibly changing the instructions to conference proposers to better address issues NIH is now focusing on. There is also the continued emphasis on reducing the number of invited speakers; the goal is to have more revenue from paid attendees.

**Soliciting for New Proposals:** There continues to be suggestions and ongoing discussions for recruiting new proposals. Suggestions range from contacting EB Symposium Speakers and Organizers to APS award winners at EB, and working with the JPC and the various section representatives.

**Number of Conferences:** Although the members of the Committee believe that organizing conferences on new and exciting topics should be strongly encouraged, it was also recognized that establishing a cohort of highly successful meetings that met periodically would help to solidify the APS conference program and move it towards an equal footing with the Gordon and FASEB summer conferences.

Council accepted the Conference Committee report.



**Thomas A. Pressley,  
Chair**

## Education Committee

### 2009 Live Short Courses:

In January 2009, the APS conducted live professional skills training courses for graduate and postdoctoral students. This was the second time both courses; "Writing and Reviewing for Scientific Journals," and "Making Scientific Presentations: Critical First Skills," were run concurrently. NIGMS grant funding provided travel fellowships for all 77 students to participate in the courses.

The writing and reviewing course focused on upper level graduate students and postdocs and the skills needed for writing and reviewing their first author manuscript for scientific journals in biomedicine. The presentation skills course was geared toward lower level graduate students and the skills needed to create and present their first author posters at meetings. Following the workshop, students in both courses completed a final "test" of multiple choice questions and a standard abstract critique to assess student skills in applying what they learned at the course. The results of these quantitative assessments are serving as a pilot test for the instruments. The 2010 course is set for January 14-17 at Disney's Contemporary Resort in Lake Buena Vista, FL. The Presentation Skills course is open to any student in physiology. For the Writing and Reviewing course, we encourage students to submit samples of their own manuscripts for discussion and revision.

**Online Course Development:** The staff have developed a draft "Writing and Reviewing for Journals," course at the APS Blackboard website. Each course includes readings, professionally narrated PowerPoint presentations, written exercises, quizzes, and a pre and post-test. Courses will be instructor-moderated and students will be able to chat with the instructor via email or a "virtual classroom." The second online course, "Basic Presentation Skills" is under development for fall testing.

**Physiology Graduate Program Directors:** In response to the success of the Medical Physiology Course Directors website and group, as well as recent input from the APS Pipeline Taskforce, the Education Office has begun soliciting contact information on physiology program directors. It is hoped that these data will facilitate the organization of a similar support group for graduate education.

### Experimental Biology Activities

**EB Refresher Course:** The 2009 Refresher Course focused on renal physiology and was organized by Robert Brock and Robert Hester. The session presentations are being prepared for the web and *Advances* publication.

**Posters Presented by the Education Office:** For the first time, members of the APS Education Office and Committee submitted abstracts for presentation as posters at EB 2009. The following were presented at the session on "Teaching, Learning and Testing in the Biological and Biomedical Sciences,": Marsha Lakes Matyas, Melinda E. Lowy, Amy

Feuerstein, and Thomas A. Pressley. "APS Archive of Teaching Resources Expands to Create a Multi-society, Collaborative Digital Library,," *FASEB J.* 2009 23:633.10; C. Brooke Bruthers, Martin Frank, and Marsha Lakes Matyas. "K-12 Minority Outreach Fellowship: Bridging Generations Among Minority Scientists,," *FASEB J.* 2009 23:633.11; Mel Limson and Marsha Lakes Matyas. "Physiology Understanding Week: Developing a national outreach program,," *FASEB J.* 2009 23:633.12; Melinda E. Lowy, Nansie A. McHugh, William R. Galey, and Marsha Lakes Matyas. "APS Undergraduate Summer Research Fellowship Program: Exposing Undergraduates to Physiology Research Leads to a Research-Focused Career,," *FASEB J.* 2009, 23:633.9.

**Meeting of the Medical Physiology Course Directors:** At EB 2009, 25 medical physiology course directors attended the meeting. Participants talked about both renal physiology content and how best to teach it. Several asked for refresher course speakers to discuss how many hours in their courses were dedicated to the specific refresher course topic. The Education Committee is exploring the AAMC CurrMIT website to gather information on the number of hours spent on each physiology topic in the medical curriculum.

**Sharing Resources at IAMSE:** The Committee, with support from staff, exhibits at the International Association of Medical Science Educators (IAMSE). IAMSE's mission is "to advance medical education through faculty development and to ensure that the teaching and learning of medicine continues to be firmly grounded in science." The APS Education Committee has coordinated staffing an exhibit at the IAMSE meeting for several years. Budget includes an exhibit table and materials but no travel support for staff or APS members.

**APS Archive of Teaching Resources:** The Archive of Teaching Resources upgrade was completed in December 2008 and the new Archive launched in January 2009. The new Archive interface provides extensive tools for both browsing and searching, highlights APS research and announcements on the front page along with a "This Month in History" feature that highlights important dates in physiology and biomedical research. "My Archive" features allow users to save and share search results. The submission process has also been simplified and now includes the ability to "clone" a submission. This allows a contributor to easily add similar items without going through each submission step again. The new Archive also has the ability to create "collections." For example, the Archive can associate a podcast with the associated journal article, press release, and discussion questions to be used in the classroom. The Archive layout is being used as a model by other scientific societies (AAAS, ASM) as they update their libraries. As of June 10, 2009, the Archive includes more than 2,300 items with an additional 300 items under review and has more than 5,800 registered users. In the first 5 months of 2009, users have viewed the information on more than 56,000 teaching resources and have accessed more than 27,000 resources. The Archive was promoted via poster/abstracts at the 2008 National Science Digital Library Annual Meeting and EB 2009, and by presentations at the National Association of Biology Teachers (NABT) and Human Anatomy & Physiology Society (HAPS) 2008 and 2009 meetings and the 2009 Science Education Partnership Awards PI annual meeting.

**Promoting APS Podcast Use:** The Education Committee is conducting a pilot project to develop teaching resources to enhance and promote the use of the APS Life Lines podcasts in undergraduate courses and K-12 classrooms. A Subcommittee is developing question and answer sheets for each podcast and a group of past Summer Research APS Education Committee 2009 and teachers are reviewing them for grade appropriateness. Links will be provided to the podcast, Q&A sheets, related research articles/press releases, and related websites.

**APS Summer Research Program for Teachers:** In 2008, the program supported 11 teachers from 10 states, fully supported by the APS Council and contributions for stipends and/or travel from their Research Hosts while new proposals for external funding were under review. These teachers completed their fellowship year by participating in EB 2009. Six teachers presented research posters and two of those teachers gave oral presentations. In 2009, 18 teachers from 13 states are working in the laboratories of APS members. These teachers have completed three online professional development units and attended the APS Science Teaching Forum in July.

**2008 EB Plenary Session and 2009 APS/NSTA/NSDL Webinar:** The Education Office is working to utilize EB sessions to reach far more participants than those who can attend the meeting. For example, the 2008 EB Workshop for Teachers and Students plenary session, "Human Physiological Limits to Exploring Mars" by James Pawelczyk, Associate Professor of Kinesiology & Physiology, Penn State Univ. and former NASA payload specialist astronaut, was recorded and edited and will be available at the APS website and through the APS Archive of Teaching Resources. In 2009, Pawelczyk was invited by APS, the National Science Teachers Association (NSTA), and the National Science Digital Library (NSDL) to speak at a collaborative webinar, "APS: Studying the Human Limits of Exploring Mars." The webinar was attended live by more than 65 teachers, a very large "crowd" for an online teacher webinar.

**International Science and Engineering Fair (ISEF) Awards:** The 60th Annual International Science and Engineering Fair (ISEF) was held in Reno, NV May 11-16, 2009. More than 1,600 students from 51 countries, regions, and territories competed in the world's largest pre-college science competition. During the two evenings of awards ceremonies, more than \$4 million in scholarships, cash prizes, and awards were distributed in categories ranging from behavioral science to engineering and medicine. Prizes included scholarships, cash awards, scientific field trips to foreign countries, and the grand prizes: three \$50,000 scholarships from Intel. Grand Awards in each of the 17 categories ranging from \$500 to \$3,000 were presented by the Intel Foundation. Special Awards were presented by more than 70 scientific, professional, and educational organizations and included scholarships, summer internships, book and equipment grants, and scientific field trips. This year's APS judging team leader was Education Committee member Robert Hester, Univ. of Mississippi Medical Center. He was accompanied by Education Committee member Mark Knuepfer, St. Louis Univ. Receiving \$1,500 for first place was Zinan Zhang, 16, a junior at Chamblee Charter High School in Chamblee, GA for his project entitled, "Adenosine 2b Receptor: A

Novel Therapeutic Target for Irritable Bowel Syndrome." The APS Second Place winner (\$1,000) was Jasmine Samaiya Roberts, 15, of Paul Wharton High School, Tampa, FL for her project entitled, "Does Chronic Hyperglycemia have an Effect on Alzheimer's Amyloid-Beta Pathology in the Brain?" The APS judging team selected the project of Melissa Severn McDowell, 16, from Saint Joseph's Academy, Baton Rouge, LA for one of two APS Third Place awards (\$500) for her project entitled "Differentiation of Bovine Adipose Derived Adult Stem Cells." The second third place APS award (\$500) was presented to Stephanie Mian Wang, 17, of Roslyn High School in Roslyn Heights, NY. Stephanie's work was titled, "The Novel Property of the Circulating Hormone AM and Its Binding Protein: Neuroprotection in Hypoxia."

**Biology Olympiad:** In the spring of 2009, the APS was invited to join the USA Biology Olympiad (USABO) 2010 National Finals, sponsored by the Center for Excellence in Education. The APS was requested to provide an instructor who could offer training in animal physiology and a laboratory experience to 20 high school students in preparation for the competition in June 2010. Training is likely to take place at either Purdue Univ. (Indiana) or George Mason Univ. (Virginia). The objectives of the USABO Finals are as follows: 1) select the team of four student finalists that will represent the USA in the International Biology Olympiad; 2) help the students to expand their understanding of biology and their ability to use that understanding in integrative and significant ways; and 3) help as best the instructors can in the limited time available to help the students develop their laboratory skills and their understanding of laboratory processes. The Committee will identify an APS member who can serve as an instructor at the Committee's fall meeting.

**APS Position Statement on K-12 Outreach:** Explicit statements of the importance of specific scientific disciplines, teaching approaches, and advocacy in K-12 education have been released by several universities and professional societies. For many years, the APS has pursued multiple initiatives in K-12 outreach. As the various programs of the Society have become more ambitious, they frequently require the input from multiple APS Committees, including Education, Career Opportunities, Trainee Advisory, Porter Physiology Development, and Women in Physiology. Beyond the Strategic Plans, however, the Society has never developed an explicit statement of its recommendations to K-12 educators or its goals in pursuing these efforts. The Education Committee requested and received Council approval to develop such a position statement, in cooperation with other relevant Society committees.

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Council unanimously approved requested revisions to the Committee's charge.

Council unanimously approved the motion for the Education Committee to develop a position statement on K-12 Outreach.





Jeff Sands, Chair

## Finance Committee Report

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 despite the poor state of the global economy.

**APS and the Current Economy:** Despite the poor performance of the Society's investments in 2008, it remains in a relatively strong position because of its conservative fiscal

approach. The Society follows a conservative budgeting philosophy, erring on the side of revenue understatement and overstatement of expenses. It has also avoided long-term debt, and it is not contemplating any long-term financing in the near future. Its long-term investments, while losing more than 23% in 2008, have been conservative as well. APS' investment policy states "in general, APS decision making [with regard to investment decisions] will be guided by placing an emphasis on minimizing downward risk at the expense of upside returns." With regard to the operating budget, other than the reduced support from its invested reserves, the economic downturn hasn't greatly affected operations to date. Subscription revenue, which accounts for 53% of 2009 budgeted revenue, should only be down 2.5%. However, it is expected that as library budgets tighten, the decline in subscription revenue will be greater in 2010.

**2008 Financial Results:** The Society was approximately \$630,000 over budget at year-end. Revenue for the year was \$629,000 under budget, but was offset by expenses that were \$1.26 million under budget. Revenue categories that were under budget included journal-related income from page charges (\$240,000 under budget), reprints (\$163,000 under budget), and color fees (\$150,000 under budget). Grant income was \$261,000 under budget. The largest revenue category, income from journal subscriptions was on budget. Several expense categories associated with producing the journals

(e.g., printing, electronic publishing, professional services, editor expenses) were under budget by a combined \$962,000.

**2009 Budget:** The Committee reported on proposed changes to the 2009 budget. Reductions in revenue of \$420,000 and decreases in expenses of \$510,000 resulted in a small increase in the 2009 budget surplus from \$83,500 to \$173,500. Budgeted revenue was decreased from \$18.85 million to \$18.43 million, and budgeted expenses were decreased from \$18.77 million to \$18.26 million. Through the first four months of 2009, both revenue and expenses were under budget and the result is a net surplus of approximately \$369,000. This is in essence a timing or seasonal imbalance between actual and budgeted revenue and expenses, and the Society is expected to be close to budget by year end.

**APS Awards Programs:** The Committee reported on the affect of investment losses on the Society's award programs that are supported by funds in its long term investment pool. As a result of investment losses in the award funds, the S.C. Wang and Lazaro Mandel awards will be reduced from \$7,000 to \$4,000. The Giles F. Filley awards will be reduced from \$40,000 (two awards, \$20,000 each) to \$24,000 (two awards, \$12,000 each), and the annual \$5,000 Bowditch award, which is currently supported by the tum Suden Fund, will be moved to the general operations budget in order to reduce the tum Suden Fund's costs for 2010.

**Three Year Financial Forecast:** The forecast model calculates an average growth rate for revenue and expenses based on historical income and costs by line item. The forecast projects surpluses of \$140,000, \$159,000, and \$158,000 in 2010, 2011, and 2012, respectively. It was noted that, for the first time since 2002, when the forecast was first used, revenue and expenses are projected to increase at the same rate of 1.1%. In all previous years, expenses were projected to grow at a rate faster than revenue.

**2010 Subscription Prices:** At its spring meeting, Council approved the Publication Committee's recommendation for 2010 journal subscription price increases. Total publication costs are estimated, with consideration to the Publications program's charge to generate income (from subscriptions and other sources) that is 10% more than expenses. Based on the calculation, an increase of 5% in subscription prices would be sufficient to meet the 10% margin requirement. Council approved the Finance Committee's recommendation to increase the price of *Physiology* 10% because of deficits

### APS Statement of Financial Position as of December 31, 2008

#### ASSETS

Cash and cash equivalents	\$ 306,852
Investments	38,625,796
Accounts receivable	3,178,403
Pledges receivable, net	202,855
Accrued interest receivable	212,998
Advances to section editors	454,430
Prepaid expenses	157,626
Inventories	27,527
Furniture, fixtures, and equipment	670,599
<b>Total assets</b>	<b>43,837,086</b>

#### LIABILITIES AND NET ASSETS

Accounts payable	\$ 2,116,181
Unearned revenue	
Subscriptions	7,118,354
Dues and other	566,132
<b>Total liabilities</b>	<b>9,800,667</b>
<b>Net Assets:</b>	
Unrestricted	33,290,013
Temporarily restricted	733,906
Permanently restricted	12,500
<b>Total net assets</b>	<b>34,036,419</b>
<b>Total liabilities and net assets</b>	<b>\$ 43,837,086</b>

*Physiology* has been experiencing. In addition, the price of the Society's Legacy product will be increased by 12.5%, from \$2,000 to \$2,250.

**2008 Audit:** The Society's financial statements were audited in accordance with general accepted auditing standards. Grant Thornton rendered an unqualified opinion that the Society's statements presented fairly, in all material respects,

the financial position of the Society at December 31, 2008 and 2007. The audit report noted no material internal control weaknesses or other areas of concern associated with respect to the Society's financial processes.

Council unanimously approved the 2008 audit.

## APS Statement of Activities for the year ended December 31, 2008

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
<b>Operating revenue:</b>				
Subscriptions	\$ 10,026,939	-	\$ -	\$ 10,026,939
Author charges	3,939,225	-	-	3,939,225
Membership dues	899,093	-	-	899,093
Grants	377,831	-	-	377,831
Conferences and meetings	847,979	-	-	847,979
Contributions	107,351	155,947	-	263,298
Advertising	235,776	-	-	235,776
Back issues	33,730	-	-	33,730
Other income	412,814	-	-	412,814
Net assets released from restrictions	<u>236,336</u>	<u>(236,336)</u>	<u>-</u>	<u>-</u>
<b>Total Operating Revenue</b>	<u>17,117,074</u>	<u>(80,389)</u>	<u>-</u>	<u>17,036,685</u>
<b>Operating expenses:</b>				
Publications	12,194,823	-	-	12,194,823
Society general	2,910,019	-	-	2,910,019
Society programs	806,237	-	-	806,237
Education	1,283,154	-	-	1,283,154
Marketing	<u>307,289</u>	<u>-</u>	<u>-</u>	<u>307,289</u>
<b>Total Operating Expenses</b>	<u>17,501,522</u>	<u>-</u>	<u>-</u>	<u>17,501,522</u>
Operating change in net assets	(384,448)	(80,389)	-	(464,837)
Net realized gain (loss) on investments	(3,435,181)	-	-	(3,435,181)
Net unrealized gain (loss) on investments	(7,752,956)	-	-	(7,752,956)
Interest and dividends	1,398,131	-	-	1,398,131
Investment management fees	<u>(421,700)</u>	<u>-</u>	<u>-</u>	<u>(421,700)</u>
<b>Total Investment Income</b>	(10,211,706)	-	-	(10,211,706)
Change in net assets	(10,596,154)	(80,389)	-	(10,676,543)
Net assets, beginning of year	<u>43,886,167</u>	<u>814,295</u>	<u>12,500</u>	<u>44,712,962</u>
Net assets, end of year	\$ <u>33,290,013</u>	\$ <u>733,906</u>	\$ <u>12,500</u>	\$ <u>34,036,419</u>



**Ida J. Llewellyn-Smith,  
Chair**

## International Physiology Committee

Almost one quarter of all APS members now come from countries other than the US. Since 2000, there has been a remarkable 66% increase in the number of international APS members. The International Physiology Committee is committed to being an integral part of APS' international efforts and to identifying and implementing ways in which APS can provide better service to the existing

international membership base.

**Committee Programs:** The International Physiology Committee now coordinates and oversees two programs: the Latin American Initiative, which began in 2000; and the International Early Career Physiologist Travel Awards. During the past year, the International Physiology Committee was also asked to assess the scientific quality of abstracts submitted for the IUPS 2009 Travel Awards.

**The Latin American Initiative:** At the closing deadline of June 30, 2008, three applications for LAI funding in 2009 had been received. Review of the applications by the Committee indicated that one merited funding and that the others were potentially fundable. As a result, Council approved funding for the successful application. The potentially fundable applications were returned and the applicants were advised to revise and resubmit. Because there was still the possibility of awarding \$5,000 in LAI support if the two revised applications were funded, the Committee called for a second round of LAI applications with a submission deadline of November 1. Five applications were received. Three of these applications were funded, including a revised application from the first round.

**Improving the Numbers and Quality of LAI Applications:** At the 2008 meeting of the International Committee, members expressed concern about the numbers of applications received over the last three to four years and about the quality of some of the applications. As a result of this discussion, the guidelines for applications were revised to give applicants a better idea of what information was required to maximize the chances of obtaining LAI funding. At the same time, the APS staff developed an online application form so that all applications for LAI funding are now made through the APS awards site. At the 2009 meeting, Committee members indicated that they were pleased with the improvement in the general quality of the applications for LAI funding that resulted from the guideline changes and decided that no further action was required. The Committee believed that the number of applications was adequate but decided to ask local Physiological Societies in Latin America to publicize the LAI.

**International Early Career Physiologist Travel Awards:** In 2008, the International Physiology Committee recommended that Council create an International Travel Award to enable early career physiologists from outside the US to attend and participate in EB meetings. The Committee developed guidelines and an online application for the new International Early Career Physiologist (IECP) Travel Award.

Committee members were generally happy with the quality

of the applicants for the IECP Travel Awards but were surprised at the scientific quality of some of the abstracts. The problem with scientific quality of abstracts was highlighted by the Committees' review of the IUPS 2009 Travel Awards. Many of the 41 abstracts reviewed for the IUPS Travel Awards were not of an acceptable standard, highlighting the need for clearer guidelines for the preparation of a good-quality abstract. The Committee decided that the guidelines for the IECP Travel Award should include instructions about what constitutes a good abstract, including a link to the relevant section of the APS website. The Committee also believed that guidelines for other abstract-based awards should also include similar instructions and links.

**Joint Meetings with Other Physiological Societies:** APS has been asked to participate in a joint meeting of the Spanish Physiological Society and Portuguese Society of Endocrinology, which will take place in 2012 under the auspices of FEPS. The Spanish Society suggested that APS sponsor a symposium. The Committee is discussing how to select joint symposia for such meetings and drafting guidelines for developing and selecting symposia for joint meetings such as these.

**Increasing International Membership in APS:** Last year, the International Committee proposed to conduct an online survey of international members in order to discover their reasons for joining APS, which services they consider valuable, and how they believe services to international members could be improved. The Committee discussed the content and timing of this survey during its meeting at EB 2009. The Committee is currently drafting a survey based on the 2007 Trainee Needs Assessment Survey and the 2005 Members Survey that was conducted during the development of the 2006-2010 Strategic Plan.

Council accepted the International Physiology Committee Report.



**Ronald Lynch, Chair**

## Joint Program Committee

**Experimental Biology 2009:** The 2009 EB Meeting was held in New Orleans, LA, April 18-22 under the meeting-wide theme of "Today's Research: Tomorrow's Health." All scientific and poster sessions were well-attended and overall enthusiasm for the meeting remains high. The primary participating societies were: APS, ASPET (pharmacology), ASN (nutrition), ASBMB (biochemistry), ASIP (pathology), and AAA

(anatomy). AAI (immunology) will no longer be affiliated with EB for the foreseeable future. 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 Association of Latin

American Physiological Societies (ALACF).

The APS portion of EB 2009 featured two unopposed Techniques and Technology in Physiology Workshops on Saturday entitled, “Chronic Instrumentation in Conscious Small Animals” and “Multi-Photon Imaging of Renal Regulatory Mechanisms in vivo.”

APS also sponsored four “Cross-Sectional” Symposia entitled, “Novel Insights into Nitric Oxide Signaling;” “ENaC/ASIC Proteins as Cardiovascular Sensors;” “Breaking the Diffraction Barrier in Imaging of Molecules in Living Cells;” and “Adrenal Corticosteroid Effects in the Central Nervous System on the Long-Term Control of Blood Pressure.”

Out of a total of 5,021 volunteered abstracts submitted, 2,136 (42%) were programmed by APS; an increase of 9% from EB 2008 when seven societies met. Five hundred and twenty four abstracts were submitted by the late-breaking deadline in February 2009. Of that, 138 (26%) were submitted to APS for programming. Meeting attendance was below budget. The total meeting attendance was 10,742 which represents the lowest attendance on record for a six-society EB meeting. APS programmed 318 sessions in total: 183 poster sessions, 61 symposia, 46 featured topics, 17 lectures, five workshops, and one refresher course, two mini-symposia, and two awards sessions.

The Physiology InFocus program entitled, “Integrative and Systems Physiology: An Approach to Understanding Organ Systems and Disease,” was organized by Irving H. Zucker and included four symposia scheduled throughout the meeting. These were entitled, “A Systems Approach to Disease Mechanisms,” “Cardiac Ion Transport and Arrhythmias,” “An Integrative and Systems Analysis of Membrane Transport,” and “Omics: The Changing Face of Integrative Physiology.” The lectures included the 12 Section Distinguished Lectureships, the MCS Landis Award Lecture, the WEH Section Young Investigator Award lecture, the Physiology in Perspective—The Walter B. Cannon Memorial Award Lecture, presented by Frank Abboud; The Henry Pickering Bowditch Award Lecture, presented by Ann Schreihöfer; and The Walter C. Randall Lecture in Biomedical Ethics, presented by Peter Schwartz which was delivered via a live webinar.

**Experimental Biology 2010:** The JPC met at EB 2009 on Saturday, April 18 to begin organizing EB 2010 that will be held Saturday April 24 through Wednesday April 28 in Anaheim, CA. This EB also will be a six-society meeting in the absence of AAI.

Total number of paid scientific registrants has been projected to be 9,931. The JPC met on June 9, 2009 in Bethesda to finalize and schedule by day and time the platform sessions. The Call for Abstracts and online abstract submission site will be available by September 2009. The abstract deadline will be November 4, 2009. EB 2010 will again provide for a late-breaking abstract deadline, anticipated sometime in February 2010. The JPC received 16 Cross-Sectional symposium proposals of which four were approved: “Humoral Factors in Renal Injury and Hypertension,” “Novel Redox Signaling in Ion Channel Regulations and Pathophysiology,” “Regulation of Neuronal Cell Volume: From Activation to Inhibition to Degeneration,” and “Endoplasmic Reticulum Stress at the Crossroad Between Fatty Liver, Leptin Resistance, Obesity and Diabetes.” In addition, two Techniques and Technology workshops will be scheduled on the first day of EB 2010: “Computational Modeling and Simulation as a Tool for Studying Physiological Processes,” and “Microfluidics and

Nanophotonics.” These workshops were designed to complement the Physiology InFocus series organized by APS President Gary Sieck.

The Physiology InFocus program entitled, *Physiology and Biomedical Engineering: Partners in Translational Research* will feature a series of four symposia: “Airway Smooth Muscle: Where Does It Come From, How Does It Work, What Does It Do?,” “Physiology at the Crossroads of Biomedical Engineering and Medicine,” “Preparing Students for Physiological Complexity—Emphasizing Quantitative Skills,” and “One Hundred Years of Starling: His Contributions to Physiology.” The meeting will also feature sessions organized by the APS Publications Department, Careers in Physiology Committee, Public Affairs Committee, Women in Physiology Committee, Education Committee, Liaison with Industry Committee, and Trainee Advisory Committee.

Council accepted the Joint Program Committee Report.

## Liaison With Industry Committee



**Craig Frederick Plato,**  
Chair

**Symposia 2009:** At EB 2009, the LWIC-sponsored symposium, titled, “Molecular Imaging of Physiological Processes in Drug Discovery” was held April 21, 2009. This symposium focused on molecular imaging, a process that unites molecular biology and in vivo imaging, and enables non-invasive visualization of cellular and molecular physiological processes in living organisms. This rapidly evolving field has applicability to drug discovery

ranging from obtaining global views of target tissues and drug actions, to target identification and localization, as well as non-invasive imaging of pathophysiological processes in tissues and organ systems. Speakers were H. William Strauss, Adriana Maggi, Paul Acton and Chris Reutelingsperger. Topics covered included: recent developments in molecular imaging and their impact on drug discovery; the current and future application of reporter animals for drug discovery; functional molecular imaging in translational research; and the advances made towards the potential clinical applications of molecular imaging in pathophysiological processes of cardiovascular diseases. This is the ninth symposium sponsored by the Committee. The topic had not been previously presented as an oral symposium at EB, and the topic was perceived as timely due to recent technological advances and applications of these approaches to better understanding pathophysiological mechanisms.

At EB 2009, the LWIC co-sponsored the Translational Physiology symposium entitled: “Fibrosis: Signaling, Physiology and Therapies,” held the morning of April 20, 2009. This symposium presented the mechanisms underlying tissue fibrosis associated with several end-stage organ diseases, including hepatic cirrhosis, cardiac diastolic dysfunction, and end-stage renal disease and displayed the “bench-to-bedside” scope of translational research in this constellation of unmet medical needs. The

speakers were Scott Friedman, Eric Neilson, Scott Loning, and Kevin Brown; the topics covered were the key signaling pathways associated with fibrosis in multiple tissues, epithelial-to-mesenchymal transition mediated fibrogenesis in kidney and lung, the similarities and differences associated with current small molecule and biologic therapies; and the successes and challenges that fibrotic therapies are experiencing in the clinic.

**Novel Disease Model Award:** The award recognizes one graduate student (\$500) and one postdoctoral fellow (\$800) submitting the best abstract describing a disease model that is novel or promises application to the drug discovery process. Four students and three postdocs applied (a total of 8 abstracts were received in 2008, a decrease of one from last year). The top two abstracts included a student and a postdoc, and awards in both categories were given. To try to increase the number of applications, Committee members will submit a flyer with description of the NDM to departments where each earned their PhD, as well as departments where they recruit postdocs. Other mechanisms conceived to increase submissions to the NDM award include contacting the APS Trainee Advisory Committee and having each committee member write a paragraph for the sectional newsletter to be included under the heading of "Awards." For the 2009 award process, the Committee amended the application to require inclusion of a cover letter with the submitted abstract that details: 1) why the applicant's disease model or approach is novel; 2) how the model may enable new or more efficient drug discovery investigation; and 3) the applicant's technical and conceptual contributions to the abstract. The requested additional information has enabled better and more appropriate evaluation of the applications.

**Symposia for EB 2010:** The LWIC will continue its annual tradition of sponsoring high quality symposia relevant to industry and academic scientists. The Committee proposed a symposium on "Novel Approaches for the Treatment of Heart Failure" for EB 2010. The symposium is co-chaired by Maggie Alonso-Galacia and Craig Plato. The Committee also proposed a Translational Physiology symposium on "Integrins: New Insights and Therapeutic Targets." The symposium will be chaired by Shaila Bassavappa.

**Committee Name Change and Perceptions of Physiologists in Industry Survey:** The Committee has requested and received approval from Council to change the Committee's name to "Physiologists in Industry Committee" (PIC). This name would be a more accurate reflection of the Committee's membership and responsibilities. During its recent meeting, the Committee deemed that many concerns stem from how industry researchers perceive those working in industry; and that the first step should be to learn what those perceptions are and then work to resolve those perceptions. The Committee drafted a survey entitled, "Beliefs/Perceptions Regarding Industry Physiologists." Paper versions of that survey were distributed at EB '09 in New Orleans. Additional copies of the survey were distributed at the APS Summer Research Conference in Colorado. While it is recognized that the survey likely did not query a normal distribution of the APS membership, it is believed that the initial sampling would inform the Committee in regards to the perceptions of industry physiologists. The results of the survey will be used to refine and submit an electronic version of the survey to the entire APS membership. The Committee has revised its mission statement and it has been posted on the PIC web page.

Council unanimously approved changing the committee name to Physiologists in Industry Committee (PIC).

Council unanimously approved the new mission statement for the PIC.



**John B. Buckwalter,**  
Chair

## Membership Committee

**Undergraduate Membership:** An increasing number of undergraduate students attend EB. The creation of an undergraduate membership category was an attempt to capture this clientele.

**Emeritus Membership:** The Council approved the tenure requirement for emeritus membership.

**International Membership:** The Committee discussed the idea of offering free or reduced memberships to those living in emerging nations. The benefits proposed are electronic only but they would be able to register for the EB meetings with a member rate. The Committee chair will work with the chair of the APS International Membership Committee to determine what would be most appropriate in attracting and retaining international members.

**Membership Statistics:** The membership growth is flat, but the Committee believes that in light of the current economic climate, the numbers are actually positive. Secondary appointments in physiology departments have doubled. Linda Allen (APS) will work with Melinda Lowy, Administrator for the ACDP, to determine if a list can be obtained so that it can be checked against the membership list and market APS membership to the nonmembers.

**Student Membership:** The Committee suggested to Council that APS market the importance of membership as a professional development tool, especially to graduate student members. Many students may not understand the importance membership and service in a national organization plays in their careers. APS should also advertise to professors the importance this has with their students.

**Transition from Student to Regular Membership:** Currently, in order to transition from a student member to a regular member, the member must complete an application for regular membership, including obtaining a sponsor. The Committee would like to have a more seamless process. The Committee is recommending that student members be allowed to become regular members upon graduation without having to complete an application form or obtain sponsors.

Council unanimously approved a motion for a marketing campaign targeting individuals with primary and secondary appointments in departments of physiology.



## From The American Physiological Society Member Alert!

Your 2010 APS Membership Renewal is **COMING SOON.**

If you don't receive yours by the beginning of October, please contact the APS Membership Department. You can e-mail us at [members@the-aps.org](mailto:members@the-aps.org), call us at 301-634-7171, or fax us at 301-634-7264.



Chris Baylis, Chair

## Perkins Memorial Award for International Physiologists Committee

Applications for the Award are accepted in the spring and fall, with application deadlines of April 15 and October 15. For the April 2008 deadline, the Committee received one application, which was funded. For the October 2008 deadline, the Committee received five applications and funded two.

One of the questions asked on the application is how the candidate learned of the award. Most indicated that they saw the award online or learned about it from their host scientist; one applicant indicated that he learned of it from colleagues.

The Committee still receives relatively few applications for the award and needs to continue with efforts to advertise the award. One mechanism used is to send out notification emails to the entire APS list several weeks before the deadline. The Committee does not have a mechanism for directly accessing the overseas applicants, but will work with the International Committee on this issue.

Council accepted the Perkins Memorial Award for International Physiologists Committee Report.



Patricia Molina, Chair

## Porter Physiology Development Committee

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

2008-2009 Porter Physiology Fellowship Program: In 2008-2009, the program provided funding for six fellows. Nearly all of the 2008-2009 Porter Fellows presented a poster at EB 2009, 83% have completed at least one of the APS Professional Skills Training Courses, and two participated in K-12 outreach activities through PhUn Week.

**2009-2010 Porter Fellowships-New and Renewal Applications:** The number of new applications received for Porter Fellowships declined this year. A total of 10 new and three renewal applications were submitted for the January 15 deadline. The Committee noted the increase in quality of applications being received, but was disappointed that the number of applications did not increase this year.

**Stipend Amount:** Over the past few years a number of students who were selected as Porter Fellows declined the fellowship due to receipt of other awards. In many cases, the stipend for the Porter Fellowship was less than that of other fellowships. The Committee researched graduate stipends and benefits at various academic institutions and found that a least 30% of the institutions provided some benefits in addition to the stipend (tuition, fees, and/or health insurance). At many institutions, stipends increased as students progressed in their programs. In terms of stipend, the starting stipend at all of the respondents' institutions was more than that provided by the Porter Fellowship. However, several respondents noted that their institutions provided additional stipend funds to students to receive outside funding for fellowships. The stipend paid to the Porter Fellows for 2009-2010 will be \$23,500, consistent with the NIH scale.

**Minority Travel Fellows Program:** Four travel fellows received funding to attend the APS conference, "2008 APS Intersociety Meeting: The Integrative Biology of Exercise V," Hilton Head, SC, September 2008. In January 2009, the Committee selected 40 travel fellows to attend EB 2009 in New Orleans, LA. Again this year, the Committee was pleased that former Porter Fellows and past Travel Fellows volunteered to be mentors for the younger Travel Fellows.

**Annual Biomedical Research Conference for Minority Students (ABRCMS) Awards:** The APS exhibited at the 2008 meeting in Lake Buena Vista, FL, promoting graduate study in physiology and the APS programs for minority students. The APS provided \$2,000 for cash awards for the most outstanding undergraduate presentations in physiology research.

**Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Conference:** In 2008, SACNAS celebrated its 35th anniversary with a conference focused on International Polar Year & Global Change, especially climate change & the peoples it most directly affects. The conference attracted 2,500 conference attendees (44% professionals, 36% undergraduates, 17% graduates, 3% postdocs, special guests, and local community participants). The SACNAS exhibit hall hosted approximately 300 exhibiting organizations, 600 registered exhibitors and showcased 600 student research poster presentations over a two-day period. The APS was an exhibitor during the national conference in Salt Lake City from October 9-12, 2008.

**The K-12 Minority Outreach Fellows Program:** In its third year, the program supported two fellows, TanYa Gwathmey, Hypertension/Vascular Research Center, Wake Forest University School of Medicine, and Keisa Mathis, Department of Physiology, LSU Health Sciences Center. During their fellowship they attended the 2008 Experimental Biology meeting at served as a Physiologists-in-Residence at the APS Science Teaching Forum (July 20-27, 2008, Warrenton, VA); participated in 2008 PhUn (Physiology Understanding) Week activities; Gwathmey represented APS at the 2008 SACNAS National Conference; Mathis represented APS at the 2008 ABRCMS meeting; both Fellows attended

the 2009 Experimental Biology meeting at the end of their fellowship year to help conduct outreach activities for teachers and students; and both presented posters on their physiology research and were Minority Travel Fellows.

Council unanimously approved the requested revisions to the Porter Physiology Fellowship Program.



**Michael Portman, Chair**

## Public Affairs Committee

**Fall 2008 Committee Meeting:** The Public Affairs (PA) Committee met in Bethesda, MD in September 2008. One major topic of concern was peer review issues at the NIH. As changes to the peer review system are implemented, committee members remain concerned about whether reviewers will receive appropriate training. This discussion led to the preparation of a letter to CSR Director Toni Scarpa outlining

these concerns. In addition, the committee recommended collecting more names of APS members who are willing to serve as reviewers to add to the NIH database.

The committee also discussed training and pipeline issues in the context of the current challenging economic times. Concerns were raised about whether training is suffering as a result of eroding research budgets. This has been an ongoing topic of discussion, and the PA committee may reach out to other APS committees to collaborate on ways to improve the situation.

The committee also initiated a conversation on how to address financial conflicts of interest (FCOI) among extramural NIH researchers. Senator Charles Grassley (R-IA) has shown great concern about unreported and inappropriate FCOI among physicians and scientists over the last several years. The Department of Health and Human Services has since published an Advanced Notice of Proposed Rulemaking (ANPRM) on FCOI and extramural researchers to explore whether the current regulations need to be changed. The committee met by conference call to discuss the ANPRM, and generated a response that was submitted on behalf of the APS. The comments can be found at: <http://www.the-aps.org/pa/policy/nih/FCOIresponse.pdf>.

In the afternoon of the PA Committee's fall meeting, nine members traveled to Capitol Hill to discuss funding for biomedical research with Members of Congress and their staff. A total of 12 offices were visited.

**Summer 2009 Visits to Capitol Hill:** The \$10 billion NIH received as part of the economic stimulus package has given rise to concerns about what may happen in FY 2011 when that money runs out. APS Science Policy staff arranged for the APS Executive Cabinet to visit Capitol Hill on July 7, 2009 to meet with staff in the offices of Senator Inouye (new Chair of the Senate Appropriations Committee), Representative Tiahrt (new Ranking Member on the House Labor-HHS Appropriations

Committee) and Representative Wolf (new Ranking Member on the House Commerce, Justice, Science Appropriations Subcommittee, which allocates funding for NSF and NASA). Advocacy messages focused on funding for research, specifically in FY 2011, when stimulus money has been spent. (See "APS Leadership Meets With Congress," p. 183).

**Coalition activities 2008-2009:** This year the APS joined with other advocacy groups in the Research Means Hope effort to undertake advertising campaigns in the districts of key Members of Congress. The goal is to create grassroots support for biomedical research through media. Thus far there has been media outreach in the districts of Representatives Mike Honda (D-CA) and James Clyburn (D-SC). Further efforts will depend on the success of these pilot projects, and on the availability of resources.

**Experimental Biology 2009:** The Public Affairs Committee sponsored a symposium at EB 2009 in New Orleans entitled, "Scientists and Regulatory Burden: Navigating the Rugged Landscape." The session was chaired by myself and JR Haywood, and the speakers were Sally Rockey (Acting Director of the NIH Office of Extramural Research), Sara Rockwell (Yale School of Medicine and Federal Demonstration Partnership), and Nelson Garnett (Consultant, Lab Animal programs). Attendance was fair and the speakers addressed issues surrounding regulatory burden, including conflict of interest, the use of animals in research, and how much regulatory and administrative burden currently weighs on academic faculty members. The session was recorded and will be available as a presentation on the APS website.

Council approved the Public Affairs Committee report.



**Kim E. Barrett, Chair**

## Publications Committee

### Scientific Impact/Attractiveness to Authors

**Impact factor:** The 2007 Journal Impact Factors, published by ISI in 2008, made a strong showing once again, with nearly all journals increasing their ranking.

**Manuscripts received:** Manuscript submissions were flat across *AJP* journals and across all the journals in 2008. Submissions for the first one-

third of 2009 are down 9% overall and down 12% for research articles; this downturn in submissions has been seen in other FASEB societies and is thought in part to reflect the impact of the writing and reviewing of stimulus grants. If the trend continues throughout the year, we will explore further the possible causes.

**Time to first decision:** Time to first decision averaged 28 days in 2008 across all the monthly original research journals.

**New peer review system:** The transition to the new software for online peer review—eJournalPress—initiated in

2007 was completed in March 2009. The new vendor continues to be responsive. This change has allowed the Publications Committee, with the input of the Editors, to edit and streamline the review forms and make article types more consistent across the journals.

**Neuroscience Peer Review Consortium:** The Committee decided to have *JN* participate in the one-year trial of this consortium, starting January 2008, which enables reviews to be transmitted from a journal that rejects an article to another neuroscience journal upon the author's request. The goal is to reduce the load on reviewers and editors and speed the publication of research results. Since the start of the trial, *JN* has received 19 submissions, which comprise approximately 2% of total submissions to the journal, 18 of which were received from *Journal of Neuroscience* and one from *NeuroImage*. Submissions to *JN* have not been high and some authors have not complied with submission guidelines. Although the trial has not yet met its goals in that time to decision is nearly identical to the conventional route, it was agreed to continue the trial through 2009 based on the considerations that authors will learn how to use the system better, participate more and that it does not take much effort for *JN* to comply.

**Time to Publication:** For 2008, the average time from acceptance to publication for the original research journals was an impressive 2.26 months.

**Supplemental Material:** A total of 399 data supplements were published in 2008, 51 of which were video clips. Approximately 22% of the non-video data supplements were published in *Physiological Genomics* and 17% in *Journal of Neurophysiology*. Access to supplemental data is free.

**APS consumer website and podcasts:** A study published in the June 2008 online edition of the *Journal of Applied Physiology* examining the illegal use of recombinant human erythropoietin led to a page 1 story in the *New York Times* and a segment on the CBS Evening News. Seven of the APS podcasts aired in 2008 related specifically to journal articles, and the August episode included an interview with David Linden. Seventeen press releases related to journal articles and were promoted to the public/press. Due in large measure to the content of the journals and the repurposing of the content by the communications department via press releases and podcasting, web traffic on the Society's consumer site grew 27.6% between 2006 and 2008.

**Author Rights Policy questions:** The Committee reconsidered some of its traditional policies regarding authors' rights to their papers. Changes made to the policies are: APS will allow authors to send PDFs to their colleagues via email attachments; APS will allow educational use of authors' articles without having to ask permission; and APS will allow posting to institutional and other repositories if the AuthorChoice fee is paid.

## Publications Committee Editorial Decisions

### Editor Requests

**Support for additional color figures (AJP-Renal) for three years:** The Committee voted not to grant this request to have an artist redraw nine color figures for review series as it would be too costly in a time of high economic uncertainty. It was not felt that the benefit of nine color article warranted the cost.

**Duplicate publication policy/unpublished data in review articles (AJP-Renal):** The Committee agreed to maintain the current policy regarding duplicate publication.

The APS does allow summaries of unpublished data in review articles.

**Does filming of techniques and methods constitute duplication or supplemental publication?** Journal of Visualized Experiments (JoVE) is an organization that films investigator techniques and publishes them on their website. The Committee agreed to allow filmed methodologies published in JoVE, provided that video is published no earlier than concurrent with final publication of article; authors disclose the publication of their video; and the paper is not a "methods" paper. The APS will prepare guidelines for submission to/publication by JoVE of methods and techniques associated with APS research articles. The APS is holding further discussions with JoVE.

## Finances

**2010 Subscription Prices:** Based on the cost plus 10% model used by the APS since setting 2002 prices, the Committee recommended that subscription prices be increased by 5% in 2010, with the Legacy content increasing 12.5% to \$2,250. The Finance Committee also recommended the rate for *Physiology* institutional prices be increased by 10%.

**Consortia:** APS continues to respond to requests from consortia of libraries or multi-site institutions, giving them a 5-15% graduated discount for 5-150+ online subscriptions. Sales were made to 43 consortia and multi-sites in 2008, up from 41 in 2007. APS' agreement with SPCNet, which packages the journals from FASEB and other publishers and presents them to consortia and library networks, commenced in 2007 but has not produced sales to date.

**Legacy Content:** In 2002, the APS started scanning its back content and putting it online. The Legacy Content, as it is called, is sold as a product with a one-time price of \$2,000. Unit sales were 61 in 2008, with lifetime unit sales at 551. The Committee considered making the Legacy Content free from 2009 after ceasing to market it from 2008, but decided not to do this, and to allow the Circulations Department and SPCNet to continue to sell this product. The Committee did not want to take a product away as long as sales were growing, especially in this era of financial uncertainty. This has proven to be a good decision.

**PG trial subscriptions:** At the *PG* Editors request, a marketing experiment in 2006 gave online institutional subscribers to *AJP-Consolidated* a free online subscription to *PG*. This experiment was extended through 2007, during which time our Circulations Department did some targeted emails/calls, which turned some complimentary subscriptions into sales. Further print marketing campaigns were implemented throughout 2008. *PG* subscriptions have increased from 275 in 2005 to 356, with a gain of 53 subscribers in 2008.

**Color Charges:** In 2008, the number of color figures decreased by 16% which correlates with a reduction in the number of articles and pages published.

## Market Outlook

Subscription counts were down 3% in 2008 (versus 4% in 2007) due to continued attrition and migration of print to electronic versions. The vast majority of APS subscriptions are institutional subscriptions sold individually through agents such as EBSCO. APS subscriptions include consortia sales, which we are looking to develop worldwide. In 2009 the APS will carry out some targeted marketing campaigns in addition



to renewal efforts. These campaigns will include identifying institutions that do not subscribe to APS journals with faculty who are APS members.

According to discussions held with academic librarians, the full impact of the economic downturn has not yet hit the institutions. Therefore, it is anticipated that there will be escalated subscription attrition in 2010. Given that librarians base their subscription purchase and cancellation decisions increasingly on usage, to help drive usage of APS journals, a campaign was created and rolled out at EB (and followed up via email) which focuses on sign-ups to eTOCS and other content alerts.

## Open Access

**Author Choice:** The APS *AuthorChoice* program was developed to allow authors the ability to provide immediate free access to their work. For a growing number of our authors, providing open access is a condition of funding. The APS *AuthorChoice* program was opened to all APS research journals in July 2007. For a fee of \$2,000 in addition to other author fees, an article is made free immediately and is uploaded by the APS on behalf of the author to PMC to meet funding requirements. In 2008, 48 authors request this option, which represents 1% of all accepted articles during that period, slightly higher than in 2007.

**Patient Access:** Since November 2005, the public can request articles through the Patient Access link on the journal home pages. About three requests per week are received compared to approximately five requests per week in 2007.

**NIH policy:** The NIH began complying with our requests to remove APS articles that are prematurely released on their PubMed Central (PMC) site under their voluntary, author-posting policy, which has had a very low compliance rate. In 2006, a group of non-profit publishers, including APS, met with NIH to persuade them to work with publishers to help improve this compliance in an effort to head-off the push toward a mandatory policy with a six-month release date that was working its way through Congress all that year. These negotiations with NIH fell apart when the NIH insisted that PMC be cloned internationally, creating multiple PMCi sites around the world. However, at the end of 2007, Congress passed an Appropriations Bill that included language making the NIH policy mandatory with a 12-month release. At the beginning of 2008, the APS signed an Agreement with the National Library of Medicine (NLM) whereby the APS will deposit articles into PMC on behalf of authors, thus complying with policies of other funding organizations such as the Wellcome Trust. PMC will make the full text of articles freely available 12 months after publication. The deposits commence with materials published in July, 2008. The Agreement with the NLM includes deposit into the UK PMCi archive only. Deposit into any other PMCi archive developed requires the publisher to grant permission.

**Wellcome Trust policy:** Wellcome Trust and other UK funding agencies now require their funded researchers to deposit their articles in PMC with a mandatory OA date six months after publication. Because that is earlier than APS's free access policy, APS allows authors to use its *AuthorChoice* program to meet this obligation.

**Harvard policy:** The Committee reviewed the decision by the Harvard Faculty of Arts and Sciences (FAS) encouraging authors to add language to the copyright transfer agreements

that allows them to post articles in an institutional repository open to the world. The Committee reiterated its decision not to allow author-provided addendums to our copyright policy.

## Books

**Book Committee update:** The Book Advisory Committee, chaired by Ron Terjung, has been working on the development of the online publication of the *Handbook of Physiology* entitled *Comprehensive Physiology*. The APS retains copyright. The existing *Handbook* content will be fully digitized and integrated within the new content and will be published in a quarterly serial format that will enable *Comprehensive Physiology* to be eligible for inclusion in abstracting and indexing services, such as PubMed and ISI (for an Impact Factor). Ongoing updating and expansion of the coverage will ensure that the content continues to grow and evolve along with the science of physiology.

## Publishing Industry Initiative Update

**Chicago Collaborative:** This group was originally organized to discuss issues of mutual importance among the library, publisher, editor/author scientific communities on topics such as access control, research funding, plagiarism and preservation. The APS is a charter member.

**CLOCKSS ([www.clockss.org](http://www.clockss.org)):** The APS is a founding member of CLOCKSS (Controlled Lots of Copies Keep Stuff Safe), an international joint venture between the leading scholarly publishers and research libraries. The mission of CLOCKSS is "to build a sustainable, geographically distributed dark archive with which to ensure the long-term survival of Web-based publications for the benefit of the global research community."

Council approved the Publications Committee Report.

## Section Advisory Committee



Pamela K. Carmines,  
Chair

The Section Advisory Committee (SAC) convened three meetings over the past year including a face-to-face meeting in Bethesda and another meeting at EB09. Discussions from these meetings are summarized below.

**Funding for Featured Topics Sessions:** At the summer 2008 Council meeting, SAC asked Council for an increase in funding for the Featured Topics sessions at the EB meetings.

Before approving the request, Council asked SAC to present additional data regarding how the current funding is used by each Section. SAC compiled this data, which revealed that all Sections use these funds to partially defray travel costs for participants in the symposium session, although there is variation with regard to the distribution of funds among these individuals (organizers, invited speakers, early career investigators, etc.). No Section plans to alter the use of the

funds for Featured Topics in the future.

**Statements of Organization and Procedures:** All Sections are in the process of updating their respective Statement of Organization and Procedures (“bylaws”) to reflect current procedures and changes in APS governance. In particular, these documents must be revised in light of the deletion of the tertiary section affiliation, with members now allowed to designate one primary and up to two secondary section affiliations. Sections are defining the rights and responsibilities of primary and secondary members in terms of sectional activities (officers, voting, committee service, etc).

**The Experimental Biology Meeting:** Having taken on a long-range planning role within the Society, SAC undertook the daunting task of looking at the nature of the EB meeting. This was the primary topic of the SAC meeting in July 2008. In an impressive display of logic that was virtually devoid of turf-wars, SAC discussed several limitations with the current EB programming format. Attention quickly focused on the allocation of sessions among the sections, as well as the limited number of sessions available to be programmed by the sections and interest groups (currently a total of 75 Featured Topic and symposia sessions). SAC presented Council with several specific recommendations as summarized below.

1. SAC agreed that the distribution of sessions among Sections (and interest groups) was out of balance relative to abstract submissions. As such, modest changes were made to about half of the Section (and interest group) allocations to bring the ratio closer to parity. These changes are to become effective with EB 2010, with the allocations to be revised as appropriate every three years.

2. In order to increase the number of sessions available to be programmed by sections, SAC recommended that APS program fully on Wednesday by scheduling sessions in the 3:00-5:00 pm time slot. This change is to be implemented at EB 2011.

3. Having reallocated the sessions within the current fixed framework and assuming that Council would approve programming on Wednesday afternoon, SAC added one session to each Section’s allocation. This session can be either a symposium or Featured Topic, with this choice to be declared by each Section to be implemented at EB 2011.

4. SAC recommended that a \$1,000 incentive per session be provided to Sections that program on Wednesday afternoon.

5. SAC agreed that Sections should strive to formally “cluster” their programming into identifiable blocks to facilitate full and successful utilization of Wednesday afternoon sessions. Sections choosing to include Wednesday in their programming “cluster” are to consider holding their Distinguished Lectureship on that day. Advance publicity of the various cluster days is envisioned to be important in allowing members to plan their travel/meeting itineraries.

6. SAC recognized that bunching the high profile, society-wide lectures/events at the beginning of EB (i.e., the Cannon Lecture on Saturday and the Bowditch Lecture on Sunday) might disenfranchise members of Sections that cluster their program in the latter few days of EB. SAC requested that Council consider repositioning out these special events to more “central” days of the EB meeting. In particular, SAC recommended moving the Bowditch Lecture to Monday. At the joint meeting of SAC and Council in April 2009, Council agreed to “think outside the box” regarding ways to shift traditional opening elements of the meeting to later in the week.

**Involvement of SAC in other Long-Range Planning Activities:** SAC will provide input to Council with regard to producing a new strategic plan, which is planned for release in conjunction with the Society’s 125th anniversary (in 2012). As a first step in the strategic planning process, SAC is reviewing the most recent member needs survey and is in the process of drafting a new survey.

Council approved the Section Advisory Committee report.



Vernon Bishop,  
Chair

## Senior Physiologists Committee

Six senior physiologists (Vernon Bishop, Clark Blatteis, William Dantzer, Harvey Sparks, Ronald Freeman, Frank Knox, and Harvey Sparks) comprise the Senior Physiology Committee. 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. Thus, each committee member makes about three dozen mailings in the course of the year. Each greeting includes an invitation for the senior recipient to inform APS about his 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 *The Physiologist*. By the end of 2008, the Senior Physiologist Committee members will have sent birthday wishes to 59 members reaching age 70, to 80 members reaching age 80, to 29 members reaching age 90, and to four members reaching the age of 100! From these greetings, 15 response letters have been received and published in *The Physiologist*. Responses from recipients of these birthday greetings are extremely positive and enthusiastic. Whether retired or still working in their labs, the majority of seniors obviously retain their passion for science. They express in innumerable ways how fulfilling they have found life and how important APS has been during their careers.

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. The Committee received and reviewed one application in 2008.

Council approved the Senior Physiologists Committee report.



Erica Wehrwein, Chair

## Trainee Advisory Committee

### Trainee Survey

In 2007, the TAC revised the survey and the survey was implemented online in September 2007. As was done in 2004, each Section representative to the TAC sent an email via their Section listserv, requesting trainees to complete the online survey. Recipients were encouraged to pass the email along to other trainees and new investigators at their institutions. More than 600 trainees completed the survey including 306 graduate students, 231 postdoctoral fellows, and 80 new investigators. There were three times as many respondents in 2007 as 2004.

When asked what their interest was in receiving professional development on different topics, the top choices for all three groups were “mentoring and being mentored” and “writing grants.” This finding has already been used in the development of a proposal to NINDS for a grant to support a new APS Professional Skills Training course on mentoring. In the survey results, postdoctoral and graduate students also rated “writing scientific manuscripts” highly. Graduate students also rated “giving a talk/symposium” highly as a professional development need.

### EB Symposia

**Online resources from Experimental Biology 2008:** Multimedia presentations for the EB 2008 Trainee Symposium, “Marketing Yourself on Paper for Academic Positions,” were edited and posted and catalogued at the APS Archive of Teaching Resources for wide dissemination. The resources include talks by Ryan Wheeler, The Scripps Research Institute (“Academic Cover Letters & the Art of Self-Presentation”), James Pawelczyk, Pennsylvania State University (“Crafting the Research Statement”), and Kevin Johnston, Michigan State University (“Creating a Teaching Philosophy You Can Use”).

The 2009 TAC Symposium was entitled, “Mentoring Strategies: Beyond the Bench,” and was organized by Karen Sweazea and My Helms. It included presentations on mentoring trainees; supervising employees in academic, government or industrial settings; capitalizing on diverse personalities; and conflict resolution. The session speakers were very highly rated by the attendees.

In 2010, the TAC symposium will focus on “Publish, Not Perish: How to Survive the Peer Review Process.” Talks will be based on the APS Professional Skills Course on Writing and Reviewing for Journals.

**Trainee Web Page:** In 2008, the TAC worked to reorganize the webpage to provide drop down menus, information and links for each APS Section, a scrolling list of announcements, and rollover graphics at the bottom of the page offering instant synopses and hyperlinks to information on awards, symposia, professional development opportunities, and more. Each Section’s trainee-relevant activities are highlighted for one month at the top of the website.

**Trainee Facebook Site:** In 2008, the TAC launched a Facebook page for APS Trainees to provide “... a place for you [physiology trainees] to stay in touch with other trainees, ask questions, and get important information about grants, awards, meetings, and other career-related info.” As APS expands its Facebook presence, the APS Trainee page will associate closely with the APS fan page.

**Trainee Community and Professional Service Award:** The TAC received eight complete applications for the award in 2009, its second year. The Committee was extremely pleased to note that the applicant pool was highly competitive. Although all eight candidates were high quality candidates, the Committee agreed that Rudy M. Ortiz, Assistant Professor of Natural Sciences, University of California, Merced, was the most outstanding candidate. Dr. Ortiz received his award at EB 2009 and will prepare an article for a future issue of *The Physiologist*.

**TAC Outreach to Undergraduates:** The Committee was very pleased that the Membership Committee proposed and received approval from Council and the membership to allow undergraduates to be student members in the Society. To aid the Membership Committee, the TAC subcommittee on undergraduate outreach has compiled a list of suggested benefits that will be relevant to new undergraduate members in APS. These were forwarded to the Membership Committee for their consideration. TAC members attended the EB 2009 Undergraduate Poster Session and engaged many of the undergraduate students in discussions of their research. The Committee also collaborated with the Career Opportunities in Physiology Committee on the 2009 EB Undergraduate Orientation Session, presenting some of the orientation talks and interacting with undergraduate students at the session tables. The TAC plans to continue these activities in 2009-2010. Finally, the TAC will expand the TAC survey to include undergraduates when it administers the next survey in 2010.

Council unanimously approved the revised charge to the Trainee Advisory Committee.

## Women in Physiology Committee



Jane F. Reckelhoff,  
Chair

**Schmidt-Nielsen Distinguished Mentor and Scientist Award:** Fourteen nominations were received for the sixth Bodil Schmidt-Nielsen Distinguished Mentor and Scientist award. The Women in Physiology Committee reviewed the nominations and selected Brian R. Duling, University of Virginia Health Sciences Center as the 2009 awardee. Duling received an honorarium of \$1,000, a plaque, and reimburse-

ment of expenses to attend the EB 2009 meeting. Duling gave a talk on mentoring entitled: “Mentoring: A Fun, Collaborative Activity,” and an article based on the lecture was published in August 2009 issue of *The Physiologist*.

**Caroline tum Suden/Frances Hellebrandt Professional Opportunity Awards:** The Women in Physiology

Committee received 90 applications for the 2009 Caroline tum Suden/Frances Hellebrandt Professional Opportunity Awards. The Committee was able to fund 34 tum Suden Awards and two Steven M. Horvath Awards, given to the top two underrepresented minority tum Suden Awardees.

**EB Mentoring Workshop:** The EB 2009 workshop was entitled, "Pathways to Leadership: Developing Critical Skills," chaired by Holly H. Brevig, Andrea L. del Tredici, and Barbara T. Alexander. The workshop was poorly attended, perhaps because it was not close to any other APS or ASPET programming sites and also due to an ASPET named lecture that was going on at the same time.

For EB 2010, the workshop organizers and chairs will be Francisco Andrade, Univ. of Kentucky, and Angela Grippo, Northern Illinois University. It will be entitled: "A Primer for the New PI: How to Herd Cats AND Keep Your Boss Happy." The participants will be made up of young investigators and more senior scientists: Jennifer L. Gooch, Emory Univ. ("Fresh Out Of The Box: Defining Who You Are"); Kristin Gosselink, Univ. of Texas, El Paso ("Managing Your Allowance: Startup, Release Time, Space"); A. Kim Johnson, Univ. of Iowa ("Running A Tight But Happy Ship"); and Stephanie W. Watts, Michigan State Univ. ("The Other Things You Do: Teaching And Service").

**Women Serving on Committees/Sections:** In reviewing the membership of the APS section advisory committees (SACs)

and other Society committees, we found that the representation of women on the general Society committees was very good. However, in looking at the SACs, we found that the representation of women was poor in most. For example, in the largest section, Cardiovascular, there was one woman (8%) of 12 total members; in the Renal Section one woman (8%) of 12 members (however, the previous chair of the section was a woman); Environmental and Exercise Physiology Section had two women (12%) out of 17 members. On Council itself, there are only three women (25%) out of 12 representatives. These numbers may have changed after the recent section meetings at EB.

**FASEB Excellence in Science Award:** For the 2010 award, 40 applications were received, down from 52 in previous year. Susan Taylor, Univ. of California, San Diego, was selected as the 2010 award recipient. Since its inception, there have been 21 winners, only one was a primary APS member. Primary ASBMB winners number 14 of the 21. The Committee will continue to work with APS members to enhance their nomination packets. In addition, the Committee is discussing strategies to increase the number of APS women who are National Academy of Science members, as that is a critical element for successful candidates for this prestigious award. ❖

Council unanimously approved a motion to sponsor and coordinate the WIP Mentoring Workshop annually.



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For more information, contact Mel Limson in the APS Education Office at: [mlimson@the-aps.org](mailto:mlimson@the-aps.org)

## Agriculture Secretary Vilsack Names APS Member Rajen Anand as Executive Director of Center for Nutrition Policy and Promotion

US Agriculture Secretary Tom Vilsack announced the appointment of Rajen Anand as Executive Director of the USDA Center for Nutrition Policy and Promotion. The mission of the Center is to improve the nutritional status of all Americans by linking research to the dietary needs of the consumer. The Center is best known for the development of the Dietary Guidelines for Americans and the MyPyramid food guidance system.

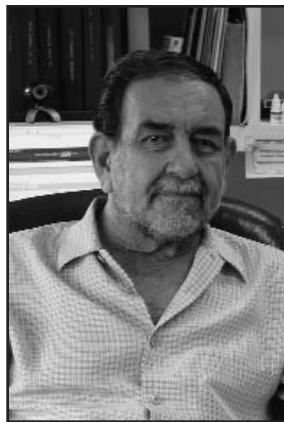
"President Obama and I are firmly committed to improving the health and nutrition of the American people, and I am pleased to welcome Dr. Anand back to USDA because he has a deep and broad understanding of dietary guidance, nutrition and how public policy is made," said Vilsack. "As a former professor and civil servant, Dr. Anand will be a huge asset to our management team."

Anand will lead a staff comprised of nutritionists, economists, mathematicians, and food and social scientists, as well as a new Evidence Analysis Library. The library will evaluate and rank the latest nutrition science for use by the Dietary Guidelines Advisory Committee that is currently charged with reviewing and revising the Dietary Guidelines which will be published in 2010.

Prior to this appointment, Anand joined the Center in 1995 as its Deputy Director and was promoted to Executive Director in 1997. Prior to his work at USDA and in the interim, he served as professor of physiology for 30 years, including six years as Department Chair at California State University, Long Beach. During his tenure at the university, he was honored with the Outstanding Professor Award and twice with Meritorious Performance and Professional Promise Awards.

A graduate of the University of California, Davis, Anand holds a doctorate in human physiology, nutrition and biochemistry and a second doctorate in veterinary medicine. He has published over 40 scientific articles in national and international journals and made presentations at numerous professional meetings worldwide.

## APS Member Oscar Candia Awarded Lewis Rudin Glaucoma Prize



Oscar A. Candia

The New York Academy of Medicine (NYAM) has awarded the 2009 Lewis Rudin Glaucoma Prize to APS Member Oscar A. Candia, for his article describing a new animal model for the study of the

effect of corticosteroids on intraocular pressure (IOP). Such a model reproduces the effects of corticosteroids on the IOP of a large percentage of the human population and has similarities with the open-angle glaucoma found in man. Candia is professor and vice chair of the Department of Ophthalmology at Mount Sinai School of Medicine. He is an internationally known researcher who has published extensively on the physiology of the anterior segment of the eye. His research includes studies on the ionic transport properties of the ciliary body, the eye tissue responsible for the secretion of the fluid that bathes the anterior part of the eye. He used the ionic transport properties of this two-cell-layered epithelium to develop the ovine model of corticosteroid-induced ocular hypertension.

The \$50,000 Rudin Glaucoma Prize recognizes the most significant scholarly article on glaucoma published in a peer-reviewed journal in the prior calendar year. This year's award winning article, "Steroid-Induced Ocular Hypertension in Normal Sheep," appeared online in September 2008 and as a printed version in the February 2009 issue of *Investigative Ophthalmology & Visual Science*. The main findings of this report were that eyes of normal sheep exhibit a robust steroid-induced ocular hypertensive response that occurs in a few days of topically applied corticosteroid in all treated sheep, and results in a doubling of IOP within 2 weeks. The rapid response, with 100% occurrence indicated that the ovine model was a reproducible and useful animal model for ocu-

lar hypertension. Co-authors in the study were Rosana Gerometta, Steven Podos and John Danias.

## Mayo Clinic Announces 2009 Distinguished Alumni Awardees

APS Member Franklyn Knox was one of four Mayo alumni awarded the 2009 Mayo Clinic Distinguished Alumni Award at a dinner hosted by the Mayo Clinic Alumni Association on August 14, 2009, at the Foundation House. This award recognizes the exceptional contributions of Mayo alumni to the field of medicine, including practice, research, education and administration.

The Mayo Clinic Distinguished Alumni Award was established in 1981 by the Mayo Clinic Board of Trustees.

Knox is a Professor of Physiology and Medicine at the College of Medicine, Mayo Clinic, and former chair of the Department of Physiology, former director of Education and former dean of the College of Medicine, Mayo Clinic. He chaired both the University of Minnesota Rochester Area Advisory Committee and the Greater Rochester Advocates for Universities and Colleges helping to bring a branch of the University of Minnesota to Rochester.

Knox is internationally recognized as a leader in renal physiology and has trained more than 100 research fellows. His studies on the regulation of sodium and phosphate metabolism in the kidney were recognized by a National Institute of Health Career Development Award and by the Ray G. Diggs and Robert W. Berliner Awards of the American Physiological Society. He is author or co-author of 282 peer-reviewed articles.

Dario Acuna-Castroviejo is in the Department of Fisiologia at the Universidad Grandad Centro Investigacion Biomedica, Armilla Granada, Spain. Prior to this position, Acuna-Castroviejo was in the Department of Fisiologia, Faculty of Medicina, Institute of Biotechnology, Granada, Spain.

Yin Chen has taken a position at the University of Arizona as an Assistant Professor in the Department of Pharmacology and Toxicology, Tucson, AZ. Prior to this position, Chen was an

Assistant Investigator at Hamner Institute for Health Sciences, Research Triangle Park, NC.

Dale Buchanan Hales is currently a Professor and Head, at Southern Illinois University Carbondale School of Medicine in the Department of Physiology, Carbondale, IL. Previously, Hale was an Associate Professor in the Department of Physiology at the University of Illinois, Chicago.

Hiroshi Hayashi has moved to the Department of Nursing at Tokyo Ariake University of Health and Medical Sciences, Tokyo, Japan. Prior to this position Hayashi was Professor of Department of Internal Medicine, Atami Hospital, International University Health and Welfare, Atami-City, Shizuoka, Japan.

Heather Marie Jones is presently an Assistant Professor at Lake Erie College of Osteopathic Medicine, Erie, PA. Prior to this position Jones was an Assistant Professor at the Pennsylvania State University in the Department of Biology, Erie PA.

Stephen C. Kolwicz is a Senior Fellow at the University of Washington Mitochondria and Metabolism Center, Seattle WA. Prior to this position, Kolwicz was a Postdoctoral Fellow at the Brigham and Women's Hospital, Boston MA.

Andrew Resnick is an Assistant Professor at Cleveland State University in the Department of Physics, Cleveland, OH. Prior to this position, Resnick was an Instructor at Case Western Reserve University School of Medicine, in the Department of Physiology and Biophysics, Cleveland OH.

David William Rodenbaugh is presently an Assistant Professor at Oakland University William Beaumont SOM, Department of Biomedical Sciences Rochester, MI. Prior to this position, Rodenbaugh was at Minnesota State University, Department of Biosciences, Moorehead MN.

Robert L Rosenberg is currently a Professor at Earlham College in the Department of Biology, Richmond, IN. Rosenberg was previously at the University of North Carolina at Chapel Hill in the Department of Pharmacology, Chapel Hill, NC.

Eric Peter Schmidt is an Assistant Professor of Medicine at the University of Colorado School of Medicine in Department Research 2, Aurora, CO. Prior to this position, Schmidt was a Postdoctoral Fellow at Johns Hopkins University School of Medicine in the Department of Pulmonary & Critical Care Medicine, Baltimore, MD.

Frank W. Sellke has moved to the Division of Cardiothoracic Surgery at Brown Medical School, Rhode Island Hospital, Providence, RI. Prior to this position, Sellke was in the Department of Surgery at the Harvard Medical School, Beth Israel Hospital, Boston, MA.

Felix R. Shardonofsky is presently a Professor in the Department of Pediatrics at the University of Texas Health Science Center Houston, TX. Prior to this position, Shardonofsky was an Associate Professor of Pediatrics at the University of Texas Southwestern, Dallas, TX.

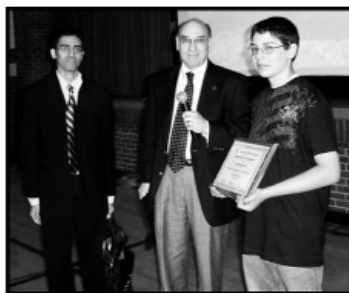
Jun Sugawara is a Research Scientist at the National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan. Previously, Sugawara was a Visiting Scholar in the Department of Kinesiology and Health Education, Austin, TX.

Jonathan E. Wingo is currently an Assistant Professor at the University of Alabama in the Department of Kinesiology, Tuscaloosa, AL. Previously, Wingo was Postdoctoral Fellow, at the Institute for Exercise and Environmental Medicine, Dallas TX.

Stephen C. Wood a Professor at the University of New Mexico School of Medicine, Office of Undergraduate Medical Education, Albuquerque, NM. Prior to this position, Wood was Professor and Chair at the University of Medicine and Health Sciences, Department of Physiology, St Kitts, West Indies. ❖

## Give an award at your local school science fair!

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To request an award package, visit the website below. If you have questions, contact Scarletta Whitsett ([swhitsett@the-aps.org](mailto:swhitsett@the-aps.org)) in the APS Education Department.

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## Postdoctoral Positions

**Postdoctoral Position:** East Tennessee State Univ., Quillen College of Medicine, Dept. of Physiology, Postdoctoral Fellow, Level 8; temporary position contingent upon extramural funding for one year with a second year option. A postdoctoral position, funded by the AHA, is available starting immediately in a neurocardiology laboratory in the Dept. of Physiology, at the Quillen College of Medicine, East Tennessee State University. The focus of this laboratory is to understand the central neural chemotransduction signaling of angina during cardiac ischemia and is currently studying the relationship between substance P release and the TRPV1 receptor. There are a number of neurocardiology faculty within the COM who interact on a regular basis. **Qualifications:** BA or BS or equivalent; and PhD and or MD, DVM. This is a postdoctoral position and we will accept someone with appropriate qualifications from completion of PhD or equivalent training, and/or someone with previous postdoctoral/research associate experience. The applicant must demonstrate experience with in vivo experimentation, the ability to perform basic surgical procedures, immunostaining, PCR and in situ hybridization procedures. The applicant must have knowledge of basic statistical analysis and demonstrate excellent written and oral communication skills. Please send ETSU application and curriculum vitae along with a letter of interest plus contact information for three professional references to: Dr. Carole A. Williams, Professor, Dept of Physiology, East Tennessee State University College of Medicine, PO Box 70576, Johnson City, TN 37614-1708. Tel: 423.439.2044; Email: williams@etsu.edu. [EOE/AA].

**Postdoctoral Positions:** The Department of Orthopedic Surgery, Exercise Science-Muscle Plasticity, at the Univ. of California, Irvine, has two postdoctoral positions available in the Multidisciplinary Exercise Science program. We are currently seeking postdoctoral fellows who have a strong interest in skeletal muscle plasticity, especially as it applies to microgravity. The program consists of three different core pro-

grams: 1) Molecular Physiology core; 2) Systems Physiology core; and 3) the Clinical Applications core. The overall goal of this training program is to develop scientists with a strong integrative approach (molecular-to-systems physiology) in the field of exercise science and skeletal muscle plasticity. Additionally, each candidate will be provided with a rich clinical exposure to strengthen the integrative nature of the program. Applicants are sought with PhD and/or MD degrees. Salary commensurate with qualifications and experience. Candidates should send a curriculum vitae and the names of three references (please do not solicit letters) to: Dr. Vincent J. Caiozzo, Medical Science I, B-152, College of Medicine, University of California, Irvine, Irvine, CA 92697-4560, Email: vjcaiozz@uci.edu. The University of California, Irvine is an equal opportunity employer committed to excellence and diversity. All qualified candidates, including women and minority candidates, are encouraged to apply.

**Postdoctoral Position:** The Division of Nephrology and Hypertension, Laboratory for Renovascular Research, has an opening for a full-time Postdoctoral Research Fellow in physiological imaging. The research is conducted in multidisciplinary group of scientists with strong emphasis on MR and CT imaging of physiological processes and tissue characteristics, and involves development and application of functional MRI techniques in the kidney and heart. We are seeking candidates who are interested in conducting and leading experimental studies in large animal models, image analysis, and theoretical model development. The successful candidate should be independent and creative, able to work as part of a multi-disciplinary group with physicians, physicists, and engineers, and should have strong written and communication skills. Experience with MR imaging, a strong interest in biology, and demonstrated ability to publish manuscripts in peer-reviewed journals will be preferred. This position is funded by an NIH grant for a minimum period of two years. **Qualifications:** MD or PhD with strong background in physics, medical physics, biomedical engineering or related field, with experience and knowledge of current scientific literature in MRI research; background or knowledge of medicine or physiology; candidate must

be adept at the use of PC and scientific computing, and experience with MATLAB is desirable. Mayo Clinic College of Medicine is a not-for-profit organization that integrates research with clinical practices and education in multi-campus environment. Mayo offers an attractive benefit package. Salary will be determined by the successful candidate's experience. For further information, please visit <http://www.mayo.edu/Applications>, including cover letter describing summary of past accomplishments, current research interests and future research goals, curriculum vitae and bibliography, relevant reprints, and the names and Email addresses of three references, should be sent to: Lilach Lerman MD, PhD, Division of Nephrology and Hypertension, Mayo Clinic in Minnesota, 200 First Street SW, Rochester, MN 55905, Email: lerman.lilach@mayo.edu [AA/EOE]

**Postdoctoral Research Fellowship:** Position in Respiratory/Exercise Physiology is available at the Institute for Exercise and Environmental Medicine (IEEM) in Dallas, TX to study breathing mechanics and ventilatory control during exercise in healthy and diseased humans. The IEEM is part of the Texas Health Presbyterian Hospital Dallas system and is affiliated with The University of Texas Southwestern Medical Center (<http://www.ieemphd.org/>). Candidates should have a doctorate in exercise science, respiratory physiology, or a closely related discipline. Successful applicants must have a strong background in human systems/integrative physiology, a strong publication record, and excellent communication and laboratory skills. The documented ability to conduct research studies in respiratory and exercise physiology is highly desirable. Salary is commensurate with experience according to NIH stipend levels. The fellow will be an employee of Texas Health Presbyterian Hospital Dallas and, thus, can choose various comprehensive fringe benefits including medical, dental, and life insurance. Please submit a cover letter describing research interests, curriculum vitae, and copies of recent research publications along with the name, address, and phone number of three references. Direct all correspondence and recommendations to: Tony G. Babb, PhD, Institute for Exercise and Environmental Medicine, 7232



Greenville Avenue, Suite 435, Dallas, TX 75231-5129, TonyBabb@TexasHealth.org.

**Postdoctoral Fellow Position:** Available immediately at West Virginia University's Department of Physiology and Pharmacology related to the identification and characterization of purine receptors in the cardiovascular system. A PhD in Pharmacology, Physiology, or Biochemistry is required. One year experience in vitro muscle bath, cell culture studies, Real Time PCR, Western Blot, and other molecular techniques is also required. To view the full position description, please visit the WVU JOBS Bulletin at [www.hr.wvu.edu/jobs](http://www.hr.wvu.edu/jobs). This position will remain open until filled. Interested applicants should forward a letter of application, current curriculum vitae or resume, and the names and contact information of three professional references to: Dr. S. Jamal Mustafa, West Virginia University, Department of Physiology and Pharmacology, PO 9229, Morgantown, WV 26506. [AA/EOE]

**Postdoctoral position:** A Postdoctoral position is available immediately at the University of South Carolina (USC) to study the role of urinary bladder smooth muscle ion channels, such as BK, SK, IK and Kv channels, and their regulation by muscarinic and beta-adrenergic receptors. Applicants should have a PhD degree with a strong background in physiology/pharmacology, electrophysiology (patch-clamp and/or microelectrodes), cell and molecular biology, bladder cystometry, and experience in animal handling and rodent surgery. A good background in urinary bladder smooth muscle function and regulation is strongly required. This project is ideal for a highly motivated individual with demonstrated experience in electrophysiology (patch-clamp and microelectrodes), molecular biology (RT-PCR, Western blot, immunocytochemistry), calcium imaging (fura-2, flou-4, high speed confocal), bladder cystometry, and smooth muscle tension recordings. Experiments will involve use of whole-cell patch-clamp and single channel recordings, calcium imaging, molecular biology, and functional studies utilizing transgenic mice. Good communication and organizational skills, and excellent knowledge of English (both oral and written) are required. Applicants should

have demonstrated scientific productivity and be able to conduct independent research. Five years of funding are currently available. Salary will be commensurate with experience and in accordance with the USC guidelines and pay-scale. The College of Pharmacy is located in downtown Columbia, one block from the State House. Columbia offers a high standard of living with good access to both cultural and outdoor activities. Please send a CV, letter of interest, statement of research interests, and contact information for three to five referees to: Georgi V. Petkov, PhD, Associate Professor of Pharmacology, Department of Pharmaceutical and Biomedical Sciences, College of Pharmacy, University of South Carolina, Coker Life Sciences Building, Room 709, 715 Sumter Street, Columbia, SC 29208. Tel.: (Office): 803-777-1891; (Lab): 803-777-6216. Fax: 803-777-8356. Email: [petkov@cop.sc.edu](mailto:petkov@cop.sc.edu).

**Postdoctoral Research Associate:** Search # 5218, National Aquatics and Sports Medicine Institute, Department of Educational Leadership & Counseling Psychology. Washington State University (WSU) is a major research university where teaching, research and service are all highly valued. The National Aquatics and Sports Medicine Institute is housed within the Department of Educational Leadership and Counseling Psychology in the College of Education, and was formed as a focus for research activity into human physiology during aquatic immersion and activity, measuring the effects of aquatic activity upon health maintenance and recovery as well as specific population effects of immersion and aquatic activity upon diabetes, arthritis, hypertension, asthma and obesity. WSU is classified by the Carnegie Foundation as a Doctoral-Research-Extensive Institution, and has three other campuses in addition to the Pullman campus (Spokane, Tri-Cities, and Vancouver). *Position Description:* The National Aquatics and Sports Medicine Institute is seeking applications for a Postdoctoral Research Associate in a temporary (three-year), non-tenure track, year to year appointment position. Responsibilities will be to assist research methodology development and grant writing, coordinate and oversee research activities, statistical analyses, support publication processes and

insure compliance with research regulatory processes, both local and federal. We anticipate this role to grow into a major leadership position within the Institute. *Required Qualifications:* Qualified candidates must possess a PhD in bioscience, with strong preference for exercise physiology. A strong statistical background (e.g., ANOVA, time series, multivariate statistics) is critical. Experience with physiologic assessment and measurement equipment is essential. *Desirable Qualifications:* Emerging research in cardiorespiratory physiology, metabolic analysis, cardiovascular and respiratory function analysis are central assets. Interest and/or experience in aquatic activity are highly desirable. Experience in research design, skills in confirmatory factor analysis, structural equation modeling, hierarchical linear modeling and successful grant-writing experience. Proven teaching experience and supervisory activity are desirable, as well as the ability to collaboratively work in a multidisciplinary environment. *Application Process:* Applicants should submit a letter of application addressing qualifications in position description; curriculum vitae; three letters of reference and the names, addresses, telephone numbers and Email addresses of additional references who may be contacted to: Jeanne Therrien, NASMI Search Committee, ELCP, P.O. Box 641410, Pullman, WA 99164-1410. Phone: 509-335-8226; Fax: 509-335-4594; email: [jeannet@wsu.edu](mailto:jeannet@wsu.edu). Additional information is posted at <http://www.educ.wsu.edu>. Salary is commensurate with qualifications and experience. Screening of applicants will begin on **October 1, 2009**. Position available January 11, 2010 or until filled. Washington State University is an equal opportunity/affirmative action educator and employer. Members of ethnic minorities, women, special disabled veterans, veterans of the Vietnam-era, recently separated veterans, and other protected veterans, persons of disability and/or persons age 40 and over are encouraged to apply. WSU employs only US citizens and lawfully authorized non-US citizens. All new employees must show employment eligibility verification as required by the US Citizenship and Immigration Services. Washington State University is committed to providing access and reasonable accommodation in its services, programs, activities, education and employment for individuals with disabilities. To request disabil-

ity accommodation in the application process, contact Human Resource Services: 509-335-4521(v), Washington State TDD Relay Service; Voice Callers: 1-800-833-6384; TDD Callers: 1-800-833-6388, 509-335-1259(f), or hrs@wsu.edu.

**Postdoctoral position:** A Postdoctoral Associate position is available immediately in the Department of Physiology and Functional Genomics College of Medicine, University of Florida for research that utilizes viral vector-mediated gene delivery to investigate the role of hypothalamic angiotensin II in mediating the effects of stress on cardiovascular and neuroendocrine regulation. **Qualifications:** PhD and or MD, DVM. The successful candidate should be able to demonstrate experience with in vivo experimentation, and possess an aptitude for performing survival surgery. This person should have the ability to run experiments independently, maintain excellent records, pay close attention to detail, analyze data and demonstrate excellent written and oral communication skills. This NIH-funded position is available for a minimum of two years, and the position will remain open until filled. Salary will be based on relevant experience according to current NIH pay scales, ranging from \$37,368 to \$49,344 per year. If you are interested in this position, please send a letter of application, your CV plus a list of three references and a statement of research experience to both Deborah Scheuer, PhD (sheuerd@ufl.edu) and Colin Sumners, PhD (csumners@ufl.edu).

## Faculty Positions

**Assistant/Associate Professor:** Department of Biology, Animal (Human) Physiologist, School of Natural Sciences. Taylor University, Upland, IN .Taylor University is seeking applications and nominations of distinguished candidates to teach in the Dept. of Biology in Physiology. This is a tenure-track position beginning August 2010. Appointment will be at the rank of Assistant or Associate Professor, and salary is dependent upon qualifications and experience. Women and minorities are encouraged to apply. **Qualifications:** Candidates who will have completed an earned doctorate in Physiology or a

closely related field by August 2010 will be considered. A strong interest in undergraduate teaching is required, and previous teaching and/or postdoctoral experience are desired. The Candidate should have experience or interest in Undergraduate Research and International or Global engagement. Candidates must be strongly committed to the educational mission and evangelical Christian orientation of the University. **Responsibilities:** The successful candidate will teach Human Anatomy and Physiology, Animal Physiology, other courses as appropriate, and possibly a course of personal interest. Student advising in areas of specialty and undergraduate collaborative research are expected. **Department:** The Department of Biology continues to be a leader in biology education with strengths lying in preparation of students for graduate school, health science programs (including medical school, dental school, veterinary school, physician assistant, physical therapy, public health and other allied health programs) and science education. The department seeks to highly prepare its majors for the future by providing a strong foundation in biological science. The department has 125 majors and offers both BA and BS degrees in Biology. Individualized tracks within the major are in the areas of Allied Health, Environmental Biology, Graduate School/Research, Pre-Medicine, and Science Education. **Location:** Taylor University, a four-year liberal arts university holding to a strong evangelical Christian position, is located in Upland, IN. Upland is on Indiana Highway 22, five miles east of I-69, 50 miles south of Fort Wayne and 60 miles north of Indianapolis. **Application:** Inquiries, credentials and supporting materials should be addressed to: Dr. Mark Biermann, Dean, School of Natural Science, or academics@taylor.edu. Selected candidates will be sent an appointment questionnaire for completion and return. All materials will remain confidential. Women and members of minority groups are encouraged to apply. Evaluation of applications will begin October 5, 2009 and continue until the position is filled. Additional information is available at [www.taylor.edu/academics/natural\\_sciences](http://www.taylor.edu/academics/natural_sciences) or by emailing mlbiermann@taylor.edu. Taylor University is a Christ-centered educational institution, and an evangelical, interdenominational covenant community committed to advancing life-long

learning and ministering the redemptive love of Jesus Christ to a world in need. Taylor University complies with federal and state guidelines for nondiscrimination in employment. Address: Taylor University, 236 West Reade Ave., Upland, IN 46989-1001; 765-998-5204; 1-800-882-3456; [www.taylor.edu](http://www.taylor.edu).

**Faculty Positions in Physiology:** The Johns Hopkins Department of Physiology seeks outstanding individuals with creative, rigorous and integrative research approaches to key physiological processes. Suitable candidates must have a PhD/and/or an MD degree; have exceptional promise and a proven record of research achievements. Presently, the Department covers a wide range of interests including membrane physiology and the biophysics of transport, computational biology, and the development and analysis of genetic disease models. Our philosophy is to integrate the growing body of information on molecular and cellular processes into functionally relevant contexts that translate into important medical advances. Therefore, we are especially interested in individuals who relate the properties of individual proteins organ function, to development and to pathogenesis. Individuals who use genetic, computational or other models to study integrative physiology are encouraged to apply. Successful candidates will complement the research activities within the Institute for Basic Biomedical Sciences (see <http://www.hopkinsmedicine.org/ibbs/index.html>) and will actively participate in the graduate programs in Cellular and Molecular Physiology and in Biochemistry, Cellular and Molecular Biology as well as medical education. Further information about the Physiology Department is available at <http://physiology.bs.jhmi.edu/>. Applicants will be assessed on an ongoing basis, with higher priority given to those who apply by 11/30/09. The deadline to submit applications is Wednesday, **December 23, 2009**. Applicants should provide one electronic (PDF) document that includes a curriculum vita, statement of research plans, copies of relevant publications and contact information of three to five referees to: physiologyrecruitment@jhmi.edu, subject line "Faculty position in Physiology." [AA/EOE]

**Tenure Track Faculty Position:** The Department of Physiology at The University of Texas Health Science Center at San Antonio (UTHSCSA) is continuing its major expansion. This year we seek to hire one tenure track faculty. At present, the Department of Physiology has clusters of research strength in neuroscience, cardiovascular function, ion channel biophysics, and the molecular biology of aging. Although candidates that can extend or bridge these areas are encouraged to apply, we are most interested in talented investigators using cutting edge techniques to elucidate fundamental physiological mechanisms at the molecular, cellular, or integrative levels. Investigators at all ranks are encouraged to apply. Candidates will be expected to contribute to the teaching mission that includes training medical, dental, and graduate students. A competitive start-up package and ample resources are offered as part of this exciting endeavor. UTHSCSA is a Tier One research institution located in the Northwest section of San Antonio and sits as a gateway to the picturesque Texas Hill Country. San Antonio is a vibrant, dynamic, and multicultural city with much to offer including an attractive cost-of-living. Review of applications will begin immediately and the position will remain open until filled. Candidates should submit the following as pdf files: curriculum vitae, two-page summary of description of research accomplishments/goals and three letters of reference to: John M. Johnson, Ph.D., Professor, Department of Physiology. E-mail: [PhysioSearch@uthscsa.edu](mailto:PhysioSearch@uthscsa.edu). Website: [www.physiology.uthscsa.edu](http://www.physiology.uthscsa.edu). All faculty appointments are designated as security sensitive positions. [AA/EOE]

**Full Professor Position:** The Institut universitaire de cardiologie et de pneumologie de Québec (IUCPQ) and the Faculty of Medicine of Université Laval are seeking to nominate a Research Chair in Bariatric and Metabolic Surgery. We welcome applications from exceptional scientists with strong research records, who are capable of consolidating an interdisciplinary and structuring research program in bariatric and metabolic surgery. Candidacies from bariatric surgeons or from internists/endocrinologists will be privileged. The appointment will commence at the level of Full Professor, with

tenure at Université Laval. The Chair is funded (research and salary) by a major corporate organization (1.5 M CAD / 5 years). This amount could be increased by partnering with the Canadian Institutes of Health Research (CIHR) via its industry chair program. The successful applicant will be expected to conduct research and to take on graduate supervision as well as other supervisory and clinical activities. The Chair will be hosted by Université Laval and located at the IUCPQ in Quebec City. The IUCPQ provides tertiary care in cardiology, respirology and bariatric surgery. It brings together in a single location the largest pool of cardiologists, respirologists and bariatric surgeons in Canada. With seven bariatric surgeons, the IUCPQ hosts the largest Canadian bariatric surgery unit. The Chair holder will be a member of the IUCPQ Research Center (CRIUCPQ) and will be given custom medical privilege. The CRIUCPQ comprises well-renowned experts in the fields of cardiology, respirology and obesity, which represent the three research axes of the CRIUCPQ. Those axes are therefore perfectly aligned with the clinical specialties of the IUCPQ, which promotes translational and interdisciplinary research programs focusing on clinical issues. The CRIUCPQ is affiliated to Université Laval, which is among the best institutions in the world for its research in obesity. Candidates should send to the Director of Research of the IUCPQ a letter of application, a complete curriculum vitae (with full contact information), five most relevant recent contributions in the fields of obesity, bariatric/metabolic surgery, internal medicine or endocrinology, along with the names of three referees. Applications should be received no later than **October 30, 2009**. All application materials should be sent directly to: Pr. Denis Richard, Director of Research, Institut universitaire de cardiologie et de pneumologie de Québec, Director, Université Laval Research Chair in Obesity, 2725, chemin Sainte-Foy, Québec, Canada G1V 4G5. Tél. 418-656-8711, extension 3392 [denis.richard@criucpq.ulaval.ca](mailto:denis.richard@criucpq.ulaval.ca).

**Assistant Professor:** The Department of Physiology and Membrane Biology, at the University of California, Davis School of Medicine, seeks to fill two, tenure-track, entry-level faculty posi-

tions at the Assistant Professor level as part of our Membrane Biology Initiative. Candidates must possess the degree of PhD and/or MD and have completed at least two years of postdoctoral training demonstrating both creativity and productivity. The successful candidates are expected to develop and maintain a high quality, extramurally funded research program, to participate in and achieve excellence in the teaching of medical and graduate students and to provide service consistent with their stage of career. The successful candidates will have a demonstrable record of research excellence, creativity and innovation and the ability to communicate effectively as an educator and colleague and demonstrate the ability to work cooperatively and collegially within a diverse environment adhering to policies and procedures. The areas of research emphasis targeted by this recruitment are membrane transporter, channel or receptor structure-function analysis and or modern proteomic and or genomic approaches to the study of membrane transporter, channel or receptor regulation through post-translational modification. The research interests of current departmental faculty are focused in the areas of cardiovascular physiology and neuroscience, with an emphasis on membrane phenomena. It is expected that the successful candidate will complement and extend the existing strengths of the Department and integrate with one or more of the School's strategic focus areas (Cardiovascular, Neuroscience, Infectious Disease, Cancer and Membrane Biology). Individuals that possess the potential to interface with and promote translational studies, facilitated through our CTSC, in partnership with clinical scientists are encouraged to apply. The department web address is: <http://www.ucdmc.ucdavis.edu/physiology/>. Letters of interest, curriculum vitae, up to three representative reprints, synopsis of research plans (past, present and future goals), summary of teaching experience/philosophy, and the names/addresses of five references should be forwarded electronically to: Peter M. Cala, Ph.D., Professor and Chair, c/o Department of Physiology and Membrane Biology, c/o, Sandy Higby, Chief Administrative Officer at: [sehigby@ucdavis.edu](mailto:sehigby@ucdavis.edu) These positions will be "Open Until Filled." For full consideration, applications should be received by **November 30, 2009**. [AA/EOE]

## Research Positions

### Graduate Research Opportunity:

Positions available in Exercise Physiology/Metabolism or Biomechanics for several highly motivated graduate students to study exercise physiology/metabolism or biomechanics at the Univ. of Southern California (USC), Los Angeles. In exercise physiology, our research focuses on metabolism (carbohydrates and lipids) and its regulation during exercise, with aging and in pathophysiological conditions (type I diabetes, type II diabetes and obesity). In biomechanics, our research focuses on the mechanisms humans use to generate and control momentum during multi-joint movements (athletic, ergonomic and clinical populations). Courses for doctoral students are offered within and outside of the department in areas including biomedical engineering, computer science, integrative and evolutionary biology, physiology, gerontology and statistics. Doctoral students enter one of two interdisciplinary degree programs available at USC: Biomedical Engineering (biomechanics) or Integrative and Evolutionary Biology (biomechanics and exercise physiology). All graduate students receive appointments as teaching or research assistants with stipends, health benefits and tuition remission. These may be renewed on an annual basis. Students are also encouraged to apply for graduate fellowships. If you are interested in learning more about the biomechanics program, please contact Dr. Jill McNitt-Gray at [mcnitt@usc.edu](mailto:mcnitt@usc.edu). If you are interested in learning more about the exercise physiology/metabolism program, please contact Dr. Lorraine Turcotte at [turcotte@usc.edu](mailto:turcotte@usc.edu).

**Research Scientist:** Tenure Track/Tenured Position, Basic Biomedical Research: The Division of Intramural Research (DIR) of the National Heart, Lung and Blood Institute (NHLBI) is seeking an outstanding scientist to initiate and direct an independent research program in

basic science on the NIH campus in Bethesda, MD. The area of expertise of the candidate is less important than his/her demonstrated ability to conduct outstanding independent research in areas within the broad biomedical research interests of the DIR. The areas of expertise may include but are not limited to: cell biology, developmental biology, molecular biology, immunology, stem cell biology, genetics, genomics, physiology, biochemistry, bioenergetics and metabolic regulation, biophysics, biomolecular structure and dynamics, systems and synthetic biology, and biomedical engineering. Technical approaches may include: high-resolution microscopy, x-ray spectroscopy and imaging, clinical robotics, nanotechnology, chemical biology, computational, and theoretical methods. The existing faculty is an outstanding group of internationally recognized biomedical researchers covering a wide range of basic and clinical research topics (please see <http://dir.nhlbi.nih.gov/>) complemented by the other research institutes within the DIR (please see <http://www.nih.gov/science/#campus>). The DIR environment provides the opportunity to perform creative and innovative science unconstrained by traditional support systems available at academic or private research institutions. This is enhanced by outstanding research core facilities in optical and electron microscopy, transgenic and knockout mouse production, mouse phenotyping, proteomics, genomics, and flow cytometry/cell sorting as well as world-class seminar series and symposia. DIR faculty can participate in Graduate Partnerships Programs (<http://gpp.nih.gov>) with many academic programs around the world as a means of recruiting graduate students, and extensive career guidance and development resources are available on campus for postdoctoral trainees. Candidates must have an MD, PhD, or both and have an outstanding record of research accomplishments as evidenced by publications in major peer-reviewed journals. The position can be filled as a tenure-track or tenured position, but preference will be given to senior postdoctoral fellows or faculty who are still in the early stages

of their research careers. The successful candidate will be offered a competitive salary commensurate with experience and qualifications, and will be assigned ample research space, supported positions, and an operating budget. Appointees may be US citizens, resident aliens, or non-resident aliens with or eligible to obtain a valid employment authorized visa. Complete applications must be received by November 1, 2009. Please submit a curriculum vitae, brief (not to exceed three pages) statement of research interests and three letters of reference in .pdf or MS word format only (no paper applications will be accepted) to: Robert S. Balaban, PhD, Scientific Director, NHLBI, c/o Michelle Renehan, Email: [nhlbi\\_dir\\_search@mail.nih.gov](mailto:nhlbi_dir_search@mail.nih.gov). DHHS and NIH are Equal Opportunity Employers. Application from women, minorities and persons with disabilities are encouraged.

### Pediatrics, Cell Biology and Physiology/Children's Hospital of Pittsburgh/University of Pittsburgh School of Medicine:

Position is available to study the dynamic regulation of the endocytic trafficking of CFTR by multiprotein interactions, including non-conventional molecular motors, Rab GTPases, and ubiquitin ligases. Immortalized human airway and intestinal epithelial cells, primary differentiated human bronchial epithelial cells among the model systems. Experience in molecular biology, cell biology, or electrophysiology necessary. Must be an American Citizen or Permanent US Resident (funded by the NIH award issued under the American Recovery and Reinvestment Act of 2009). Send curriculum vitae and recent publications to: Agnes Swiatecka-Urban, MD, FASN, Assistant Professor, Children's Hospital of Pittsburgh, Rangos Research Center, 7th Floor, Room 7119, Pittsburgh, PA 15201. Or Email: [asurban@pitt.edu](mailto:asurban@pitt.edu). The University of Pittsburgh is an Affirmative Action, Equal Opportunity Employer. Applications from women and minorities are encouraged. ❖

## The Wine Wizard Peter Wagner

Dear colleagues: Some very nice wines for relaxing by the.....(-80 freezer, fume hood, liquid N2 tank, Dean's office.....you name it).

### Whites:

2008 Drylands Sauvignon Blanc, Marlborough, New Zealand \$12-50. Another great white (wine, not shark) from NZ. As I have said before, most NZSB's differ most by acidity, otherwise sharing great gooseberry/passion fruit/lime flavors you just don't get with California/Chilean versions. This one is quite high in acid but has the fruit. So let it warm up a bit to strengthen the fruit/acid perception ratio and enjoy.

2008 Kim Crawford Unoaked Chardonnay, New Zealand \$13. This winery produces great Sauvignon Blanc even among NZ competitors. This chardonnay has strong apple and pear fruit on the nose. The palate is clean and bright, more apple/lemon with a touch of passionfruit. No oak to hide the flavors. Good acidity and length.

2006 Matanzas Creek Chardonnay, Sonoma \$19. A touch expensive, but this is a very, very good wine. It has a forward tropical fruit nose with some vanilla behind. The palate is rich and creamy with lots of tropical and citrus fruit. The acidity is very good, making the wine crisp, bright and clean. The oak is definitely in the background. What makes this wine so attractive is the combina-



Peter Wagner

tion of good fruit, good acidity and low oak. Length and depth are excellent. You could serve this wine to anyone.

### Reds:

2007 Hahn Syrah \$14. I think this Californian wine is "central coast" but I forgot to note its appellation down when tasting it. The nose has lots of dark berry fruit, some oak and a touch of sausage meat (not unusual or unattractive in a syrah as long as it does not dominate).

The palate is lush with forward plum/cherry fruit, some oak, just a hint of the sausage meat and a sense of sweetness from the ripe fruit. It is soft and rich with adequate acid and good length.

2004 Goose Ridge Syrah, Columbia Valley, Washington \$10. Wine spectator gave this a 91 rating (max 100), which is noteworthy. It is at a great price, but I was a little put off by the over-abundant dill/vanilla on both the nose and palate. This reflects American oak barrel maturation. Yet the fruit is solid with dark berries and the wine is rich and viscous. You be the judge.

2008 Boxhead Shiraz, South Australia \$9. For this price, it's a deal. Jammy dark berries and eucalyptus on the nose, the palate has a very young taste with grapey, ripe, almost sweet fruit in abundance. There is some earth and spice for complexity. It is soft, rich and viscous with just right acid, and a good finish except for a touch of bitter stemminess.

2006 Tobin James Syrah "Rock and Roll" Paso Robles \$14. Tobin James is best known for rich Zinfandels. This wine is interesting and worth a try. The nose has good plummy fruit with some oak char. The palate is young, a bit grapey in character, but with spice, oak and good acid. There is some dill from the American oak, but not too much. Tannins are soft and length is good.

Have fun! ❖

**Ph  
Un  
Week** 2009

**FINAL CHANCE**  
Don't miss the fun of PhUn Week!  
Visit a classroom  
November 2 - 6, 2009  
Download activities and  
career presentations from:  
[www.PhUnWeek.org](http://www.PhUnWeek.org)

The APS encourages members to reach out to their local K-12 schools in November for *Physiology Understanding Week*. Join your fellow APS members in sharing your excitement about science and physiology with precollege students through classroom visits with your lab group. *PhUn Week* resources and freebies can excite youth. Physiologists CAN make a difference!

Connect and work with a teacher in your community for some last-minute planning. Supplies are still available. Complete and submit the form to the APS Education Office no later than October 15<sup>th</sup>. For more info, contact the APS Education Office at: [phunweek@the-aps.org](mailto:phunweek@the-aps.org).

[www.PhUnWeek.org](http://www.PhUnWeek.org)

November 2-5

**Microbial Biotechnology for Development, Marrakech, Morocco.** *Information:* Internet: <http://www.ucam.ac.ma/microbiona/>.

November 16-19

**Chromatin: Structure & Function Conference 2009, Guanacaste, Costa Rica.** *Information:* Internet: <http://www.abcam.com/go.cfm?p=4406>.

December 5-9

**49th Annual Meeting of the American Society for Cell Biology, San Diego, CA.** *Information:* Internet: <http://www.ascb.org/meetings/>.

December 14-16

**Cellular & Integrative Neuroscience Themed Meeting, Cardiff, United Kingdom.** *Information:* Tel.: +44 (0) 207269 5710; Email: [meetings@physoc.org](mailto:meetings@physoc.org); Internet: <http://www.physoc.org/meetings>.

**2010**

February 10-13

**Fifth International Conference SUMO, Ubiquitin, UBL Proteins: Implications for Human Diseases, Houston, TX.** *Information:* Amy Heaton. Email: [aheaton@mdanderson.org](mailto:aheaton@mdanderson.org); Internet: <http://www.mdanderson.org/education-and-research/departments-programs-and-labs/departments-and-divisions/cardiology/sentrin/index.html>.

February 15-18

**The Con-Joint Meetings of Biology and Synchrotron Radiation (BSR) and Medical Applications of Synchrotron Radiation (MASR), Melbourne, Australia.** *Information:* Internet: <http://www.masr2010.org>.

February 20-24

**Biophysical Society 54th Annual Meeting, San Francisco, CA.** *Information:* Alexandra Frager. Tel: 301-634-7326; Fax: 301-634-7133; Email: [afrager@biophysics.org](mailto:afrager@biophysics.org); Internet: <http://www.biophysics.org/2010meeting>.

March 17-20

**XVIII World International Family Therapy Association (IFTA) Congress, Buenos Aires, Argentina.** *Information:* Victoria Tomsy, CLA 2010 - Industry Liaison & Sales, Paragon Conventions - Part of Liberty International Group, 18 Avenue Louis Casai; 1209 Genève, Switzerland. Tel: +41 (0)22-5330-948; Fax: +41(0) 22-5802-953; Email: [vtomsy@paragon-conventions.com](mailto:vtomsy@paragon-conventions.com); Internet: <http://www.paragon-conventions.net/IFTA2010/>.

March 21-25

**6th World Congress for Neurorehabilitation, Vienna, Austria.** *Information:* Internet: <http://www.wcnr2010.org>.

May 6-8

**The Power of Programming: International Conference on Developmental Origins of Health and Disease, Munich, Germany.** *Information:* Melinda Széll, Ludwig-Maximilians- University of Munich, Dr. von Hauner Children's Hospital, Div. Metabolic Diseases and Nutrition Medicine, Lindwurmstr.4, D- 80337 Munich. Tel: +49 (0) 89 5160 2816; Fax: +49 (0) 89 5160 4939; Email: [Melinda.Szell@med.uni-muenchen.de](mailto:Melinda.Szell@med.uni-muenchen.de).

May 14-19

**2010 American Thoracic Society International Conference, New Orleans, LA.** *Information:* ATS International Conference Department. Tel.: 212-315-8652; Email: [conference@thoracic.org](mailto:conference@thoracic.org); Internet: <http://www.thoracic.org>.

September 2-4

**6th International Muscle Symposium, Vienna, Austria.** *Information:* Internet: <http://www.musclesymposium2010.at>.

September 13-16

**14th European Congress on Biotechnology, Barcelona, Spain.** *Information:* Chiara Angelucci, IBS 2010 Organizing Secretariat, Adria Congrex Srl, Via Sassonia, 30, 47900 Rimini. Tel: +39 0541 305896; Fax: +39 0541 305842; Email: [c.angelucci@adriacongrex.it](mailto:c.angelucci@adriacongrex.it); Internet: <http://www.adriacongrex.it>.

September 26-30

**23rd Scientific Meeting of the International Society of Hypertension, Vancouver, Canada.** *Information:* Meeting Secretariat: Sea to Sky Meeting Management Inc., Suite 206, 201 Bewicke Avenue, North Vancouver, BC Canada, V7M 3M7. Tel: 604-986-6455; Fax: 604-984-6434; Email: [info@vancouver-hypertension2010.com](mailto:info@vancouver-hypertension2010.com); Internet: <http://www.vancouverhypertension2010.com/>.

December 2-5

**14th Asia-Oceania Congress of Endocrinology, Kuala Lumpur, Malaysia.** *Information:* Congress Secretariat, Console Communications Sdn Bhd, Suite 11.8, Level 11, Wisma UOA 11, 21, Jalan Pinang, 50450 Kuala Lumpur. Tel: +603 2162 0566; Fax: +603 2161 6560; Email: [aoce2010@console.com.my](mailto:aoce2010@console.com.my).

**2013**

July 21-26

**37th Congress of the International Union of Physiological Sciences (IUPS 2013), Birmingham, United Kingdom.** *Information:* Internet: <http://www.iups2013.org/>.



# MEMBERSHIP APPLICATION FORM

## The American Physiological Society

1. Check membership category you are applying for:  Regular  Affiliate  Graduate Student  Undergraduate Student

2. Name of Applicant: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Last Name or Family Name First Name Middle Name

3. Date of Birth \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Optional: Male  Female   
Month Day Year

4. Institution Name \_\_\_\_\_ Department \_\_\_\_\_  
(Please do not abbreviate Institution Name)

5. Institution Street Address \_\_\_\_\_

6. City/State/Zip/Country \_\_\_\_\_

7. Home Address **(Students Only)** \_\_\_\_\_

8. Work Phone \_\_\_\_\_ Home Phone \_\_\_\_\_

9. Fax \_\_\_\_\_ E-mail \_\_\_\_\_

10. **Educational Status:** **IMPORTANT for STUDENTS: \*\* If you are enrolled as a graduate student for an advanced degree, or as an undergraduate student, please include the month and year you expect to receive your degree.**

<b>Dates**</b>	Degree	Institution	Major Field	Advisor
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11. **WHAT IS YOUR SECTION AFFILIATION?** Please identify your primary sectional affiliation with a "1" and check (✓) up to two additional sections with which you would like to affiliate. **There can be only one "Primary" affiliation.**

- |   |   |                                     |
|---|---|-------------------------------------|
| ___ Cardiovascular                        | ___ Endocrinology & Metabolism            | ___ Renal Physiology                |
| ___ Cell & Molecular Physiology           | ___ Environmental & Exercise Physiology   | ___ Respiration Physiology          |
| ___ Central Nervous System                | ___ Gastrointestinal & Liver Physiology   | ___ Teaching of Physiology          |
| ___ Comparative & Evolutionary Physiology | ___ Neural Control & Autonomic Regulation | ___ Water & Electrolyte Homeostasis |

12. **DO YOU WORK IN INDUSTRY?**  YES  NO

13. **SPONSORS** (Sponsors must be Regular APS Members. If you are unable to find sponsors, check the box below, and we will locate them for you.) *Undergraduate Students do not require sponsors but must supply proof of enrollment such as transcripts or letter from your advisor.*

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

#1 Sponsor Name \_\_\_\_\_

#2 Sponsor Name \_\_\_\_\_

Mailing Address \_\_\_\_\_

Mailing Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Phone \_\_\_\_\_

Phone \_\_\_\_\_

Fax \_\_\_\_\_

Fax \_\_\_\_\_

E-mail \_\_\_\_\_

E-mail \_\_\_\_\_

Sponsor Signature\* \_\_\_\_\_

Sponsor Signature\* \_\_\_\_\_

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

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

# Membership Application (Continued...) Applicant Last Name (please print) \_\_\_\_\_

## 14. OCCUPATIONAL HISTORY [Check if student

### Current Position:

Dates	Title	Institution	Department	Supervisor
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### Prior Positions:

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

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

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

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

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

Mailer    Meeting (Which meeting? \_\_\_\_\_)    Colleague    Other \_\_\_\_\_

### Mail your application to:

Membership Services Department, The American Physiological Society  
9650 Rockville Pike, Bethesda, Maryland 20814-3991 (U.S.A.)  
(or fax to 301-634-7264) (or submit online at: [www.the-aps.org/membership/application.htm](http://www.the-aps.org/membership/application.htm))

Send no money now—you will receive a dues statement upon approval of membership.

Approval Deadlines: Membership applications are considered for approval on a monthly basis.

Questions? Call: 301-634-7171 • Fax: 301-634-7264 • E-mail: [members@the-aps.org](mailto:members@the-aps.org) • Web: [www.the-aps.org](http://www.the-aps.org)