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Integrating the Life Sciences from Molecule to Organism

The Physiologist

INSIDE

The "Animal Rights" Movement's Cruelty to Humans

Alex Epstein

The "animal rights" movement has pulled off a deadly deception: promote a vicious, anti-human policy, while feigning benevolent, compassionate motives. The deception takes the form of opposing life-saving medical research—in the name of opposing cruelty to animals.

Consider PETA's ongoing campaign against Covance, a company that conducts vital medical research on animals to fight diseases such as breast cancer, diabetes, and Alzheimer's. PETA is staging an elaborate, heavily backed PR effort claiming that Covance engages in gratuitous and unnecessary torture of monkeys. The centerpiece of the campaign is a 5-minute video allegedly proving PETA's accusations.

In fact, PETA's effort is a classic smear campaign. Many of the "abuses" it documents, such as the use of restraints or delivering drugs through nasal tubes, are necessary to effectively administer drugs to animals. And the few examples of seemingly inappropriate behavior they find, such as the bizarre taunting of monkeys by a few Covance employees, are treated as pervasive industry practice, even though it took a PETA operative (operating illegally within Covance) over 10 months to cull a mere handful of such instances.

No sane person seeks to inflict needless pain on animals. Such practices, where they exist, should be condemned. But anyone concerned for human life must unequivocally endorse the rightness of using animals in medical research.

Animal research is absolutely necessary for the development of life-saving drugs, medical procedures, and biotech treatments. According to Nobel Laureate Joseph Murray, MD: "Animal experimentation has been essential to the development of all cardiac surgery, transplantation surgery, joint replacements, and all vaccinations." Explains former American Medical Association president Daniel Johnson: "Animal research, followed by human clinical study, is absolutely necessary to find the causes and cures for so many deadly threats, from AIDS to cancer."

Millions of humans would suffer and die unnecessarily if animal testing were prohibited. But this is exactly what PETA and other "animal rights" organization seek. They believe that all animal research should be banned, including research conducted as humanely as possible (the declared and scrupulously practiced policy of most animal researchers).

The founder of PETA, Ingrid Newkirk, has declared unequivocally that animal research is "immoral even if it's essential" and that "Even painless research is fascism, supremacism." When questioned what her movement's stance would be if animal tests produced a cure for AIDS, Newkirk responded: "We'd be against it." Chris DeRose, founder of the group Last Chance for Animals, writes: "If the death of one rat cured all diseases, it wouldn't make any difference to me."

The goal of the "animal rights" movement is not to stop sadistic animal torturers; it is to sacrifice human well-being for the sake of animals. This goal is inherent in the very notion of "animal rights." According to PETA, the basic principle of "animal rights" is: "animals are not ours to eat, wear, experiment on, or use for entertainment"—they

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The Walter C. Randall Lecture and an Agenda for Ethics

Bob Williamson, University of Melbourne, Australia

I was privileged to give the Walter C. Randall Lecture to the American Physiological Society at the IUPS/APS meeting in San Diego in April of this year. Walter Randall was one of the people who insisted that the Society maintained a major interest in ethical issues, long before others noticed! My title was "The Future of Physiology in the Era of the Human Genome: Medical Miracles or Ethical Disasters?" In a world where our science is subject to community and media scrutiny, we are entering a period where ethics is regarded as of increasing importance. May I offer a few of the points from my talk at the San Diego meeting, with notes of some of the articles on ethics that I have read during the past month which others may find of interest? I will welcome any comments from readers, provided they are punchy and short.

I started by noting that we can no longer rely on automatic public support for medical research. This is particularly true for genetic research, since genetics deals with controversial areas such as family, race and sex. We have to engage with an increasingly sceptical public, and convince them that we are confident of both the morality and the value of our work.

During the 1960s ethicists became increasingly concerned that, in a widening world, an ethics based only on Christian principles is not inclusive enough to be compelling to everyone. To meet this concern, Beauchamp and Childress proposed four principles that are widely accepted in all ethical philosophies, "Western" and "Eastern," religious and humanist. "Principalist ethics" (based on the four principles) argues for benevolence, non-malificence ("do no harm,"), justice and autonomy. There has been increasing emphasis, in many first world countries, on autonomy, the concept that the individual has the right to override any other consideration if they believe that this is consistent with their beliefs (for a discussion see Gillon, 2003). I am not convinced it is as simple as this, because rights have obligations. A "right" without obligations, which disempowers, such as the so-called "right not to know," may be a false right. Anyone who wishes to read a bit more about this might turn to an article that appeared in March 2005's *Journal of Medical Ethics* by Stirrat and Gill, because it expresses the "problem" very well, and also because it gives the seminal references.

However, there is another objection to principalist ethics. Some major philosophical systems (such as those of China and Japan) do not accord as much importance to autonomy as "Western" systems, which are more individualistic. There is a very exciting and well-argued article in the same issue of the *Journal of Medical Ethics* from Dr. Tsai (National Taiwan University). He demonstrates that "Eastern" philosophies do show respect for the individual, but also show greater willingness to subordinate the rights of an individual in the context of overriding responsibilities to a family, or the interests of the community as a whole.

Finally, many of you will have read the Policy Forum in *Science* of 25th March 2005, "Ethics: A Weapon to Counter Bioterrorism." Although provoked by the current world situation, this article should not be seen only, or primarily, in the context of the aftermath of September 11. It puts forward a "Code of Ethics for the Life Sciences" that goes far beyond this in its implications. Clinicians have an ethical code of conduct by which they judge how to practice medicine. It would, in my view, be of great value to have a similar code that we could discuss with and transmit to our students and junior research fellows, to increase their understanding of ethical conduct in the life sciences, something I am sure that Walter Randall would have welcomed!

I hope to follow this with some views on embryo and adult stem cell science, my other main topic in San Diego, in a few months.

References :

1. Gillon, Raan. "Ethics Needs Principles: Four can Encompass the Rest–and Respect for Autonomy Should be "First Among Equals." *J Med Ethics* **29**:307-312, 2003.
2. Somerville, MA, and Atlas, RM. "Ethics: A Weapon to Counter Bioterrorism." *Science* **307**:1881-1882, 2005.
3. Stirrat, GM, and Gill, R. "Autonomy in Medical Ethics After O'Neill." *J Med Ethics* **31**:127-130, 2005.
4. Tsai, D F-C. "The Bioethical Principles and Confucius' Moral Philosophy." *J Med Ethics* **31**:159-163, 2005.

(continued from page 223)

"deserve consideration of their own best interests regardless of whether they are useful to humans." This is in exact contradiction to the requirements of human survival and progress, which demand that we kill animals when they endanger us, eat them when we need food, run tests on them to fight disease. To ascribe rights to animals is to contradict the purpose and justification of rights: the protection of human interests. Rights are moral principles governing the interactions of rational, productive beings, who prosper not in a world of eat or be eaten, but a world of voluntary, mutually beneficial cooperation and trade.

The death and destruction that would result from any serious attempt to pretend that animals have rights would be catastrophic—for humans—a prospect the movement's most consistent members embrace. Newkirk calls human beings "the biggest blight on the face of the earth." Freeman Wicklund of Compassionate Action for Animals declares: "We need a drastic decrease in human population if we ever hope to create a just and equitable world for animals."

The central issue in the "animal rights" debate is not whether it is acceptable to torture animals, but whether it is proper to use them for human benefit. The "animal rights" movement's emphasis on the senseless torture of animals, in the rare cases where it actually exists, is a red herring. It is a way of promoting opposition to life-saving animal research companies, and sympathy for themselves, so as to further their evil agenda of subjugating human beings to animals. They must not be allowed to get away with such dishonesty. What is needed is a principled, intellectual defense of the absolute right of animal experimentation, against the deadly notion of "animal rights." Anything less is cruelty to humans. ❖

Council Meets in Bethesda

The APS summer Council meeting was held in Bethesda, MD, June 16-18, 2005. During the meeting Council met with the APS committee chairs. The chairs presented reports of the committees' programs and accomplishments during the past year, and plans for the coming year. These committee reports are published in this issue of *The Physiologist*.

The Animal Care and Experimentation Committee (ACE) reported that the management of pain and distress in laboratory animals continues to be a topic of concern to both the scientific community and the public. Animal research protocols must include appropriate provisions for relief of pain and distress consistent with the scientific aims of the study, but researchers sometimes find themselves at odds with their institution's IACUCs with regards as to what those measures should include.

Last year the APS sponsored a workshop on animal pain, stress, and distress issues which included scientists from APS and other scientific societies, laboratory animal veterinarians, and research policy and oversight representatives from the NIH, FASEB, the Institute for Laboratory Animal Research (ILAR), and Association for the Assessment and Accreditation of Laboratory Animal Care (AAALAC). The group tried to formulate a definition of "distress" that would not only be scientifically valid, but would be acceptable to IACUCs. Two members of this workshop group—APS member Bill Martin (Merck and Company, Inc.) and Endocrine Society member James Herman—were invited to present a workshop session on pain and distress issues at the March 2005 IACUC meeting sponsored by Public Responsibility in Medicine and Research (PRIM&R).

The Committee reported that the new animal welfare regulatory standards were under development by the Council of Europe, and efforts to promote international "harmonization" of animal welfare standards are emerging areas of concern to APS members. The ACE Committee presented a symposium at IUPS 2005 entitled "Transnational Impacts of Animal Welfare Regulations." The Committee believed that this was a necessary first step to ensure that US and international researchers are made aware of likely changes in animal welfare regulations that will be taking place over the next several years.

The ACE Committee reported that the federal Farm Bill is due to be reauthorized next year, and it is anticipated that animal activists will seek to use this as a vehicle to amend the Animal Welfare Act. The Committee is expecting that the activists will seek to have the Helms amendment removed from the Animal Welfare Act. The Helms amendment specifically excludes rats, mice, and birds bred for research from the Animal Welfare Act oversight. The Helms amendment was anathema to activists, who have been trying for 30 years to extend USDA's oversight to these species.

The Communications Committee reported that it has reorganized some elements of the Press Room webpage to make it more concise and user-friendly (http://www.the-aps.org/press/). These changes include a new "Resources" section to house resource modules and other outreach materials currently in development by the Communications Committee; a reorganized "Press Releases" area; and a "Journalist Information" area where reporters can join the mailing list or register to attend an APS conference.

The Committee has developed resource modules on obesity, comparative physiology, and the use of laboratory animals. Other modules currently in development or planned include environmental physiology, hypoxia, aging, hormones, sleep, exercise

APS Council: Row 1: Susan Barman, Dale Benos, Neil Granger, Kim Barrett; Row 2: Jeff Sands, Douglas Eaton, Irving Zucker, Helen Raybould, Carole Liedtke; Row 3: Kenneth Baldwin, Curt Sigmund, Thomas Lohmeier, Irving Joshua; Row 4: Peter Wagner, Gary Sieck, Robert Carroll.

and heart failure. These modules can be used in various outreach programs including story ideas for the media and general audience resource documents.

The Committee organized and presented a Communications Symposium at the 2005 IUPS Congress entitled "Developing and Implementing a Communications Strategy: the Basics for the Basic Scientist", which provided an overview of the key elements required to translate a basic science message into a communications program for the public. The Committee will be sponsoring another symposium at EB 2006 entitled "Ground-floor Communications: Creating a buzz about Science through Community and Constituency Outreach." The goal of this symposium is to demonstrate how scientists can work as champions for research and increase community awareness of science.

The Liaison with Industry Committee sponsored its fifth symposium at IUPS 2005 Congress which was entitled: "Metabolic Syndrome: From Clinical Insights to New Therapies." The symposium included the topics of genetic and physiological insights into metabolic syndrome, PPARalpha/gamma activation for the treatment of dyslipidemia and insulin resistance, Dipeptidyl peptidase IV inhibition for the treatment of type 2 diabetes, and the role of sphingolipids in atherosclerosis and metabolic syndrome. The Committee will be sponsoring a symposium at EB 2006. The focus of this symposium will be "Advances in Ion Channel Physiology."

The Publications Committee continues to its work to make each individual APS journal the best in its field, and to provide the highest possible quality publications. The Journal Impact Factors made a strong showing again in 2004; with *Physiological Reviews* ranking 3rd among all journals. The Committee reported that use of APSCentral has allowed journal editors to decrease their time to first decision, which averaged 30 days in 2004 across all the monthly original research journals. Implementation of APSCentral has also helped the editors of *PRV* and *Advances* manage the review process of these journals more efficiently.

In response to the NIH policy requesting that authors submit their accepted manuscripts to the NIH database for archiving and public dissemination, the Committee agreed to add language to the Manuscript Submission Form, along with an explanatory memo to authors, granting authors permission to voluntarily submit their accepted manuscript to the NIH's PubMedCentral, with public release 12 months after final publication in the journal. This decision was made to help authors meet the perceived requirement of the NIH while preserving APS' copyright of their accepted articles.

The Women in Physiology Committee reported that the second Bodil Schmidt-Nielsen Distinguished Mentor and Scientist Award was presented to Christin Carter-Su, University of Michigan, at the IUPS/EB 2005 meeting. The Committee also co-sponsored a workshop, "Managing a Laboratory," with ASPET at the IUPS/EB 2005 meeting. The workshop was designed to help young physiologists deal with many of the issues they will face starting their own laboratories. The Committee will again co-sponsor a workshop with ASPET at EB 2006. The focus and title of the workshop will be "Balancing Life and Career." Specific topics for the symposium will be balancing research, teaching, service activities, balancing job and family, and dual careers. The target audience is young scientists interested in learning skills for their current and future careers. The workshop will also offer a venue for networking between junior and senior scientists.

The Trainee Advisory Committee (TAC) reported that they formulated and conducted a Trainee Survey. The survey included ranking the importance of several issues such as balancing work and family, mentoring, grantsmanship, and teaching. A total of 224 trainees completed the survey. These results are being shared with the Education, Careers in Physiology, Women in Physiology, and Porter Physiology Development Committees as well as with the APS Membership and Marketing Departments. The TAC is organizing the first TAC-sponsored symposium, which will be presented at EB 2006. The topic of the symposium will be "Transition from Postdoc to New Investigator." The Committee is working to finalize the session speakers and format.

Reports from the Awards, Careers, Committee on Committees, Education, Finance, International Physiology, Joint Program, Liaison with Industry, Long Range Planning, Membership, Perkins Memorial Fellowship, Porter Physiology Development, Public Affairs, Section Advisory Committees, and Senior Physiologists were also presented to Council.

For more information, see the Committee Reports section beginning on page 240. ❖

APS Committee Chairs: Row 1: L. Gabriel Navar, Sinya Benyajati, Hannah Carey, Caroline Sussman; Row 2: William Galey, Patricia Molina, Chahrzad Montrose-Rafizadeh, Lisa Harrison-Bernard; Row 3: William Talman, Gregory Florant, Peter Friedman.

Granger Thanks APS Staff

APS President Douglas Eaton hosted a staff appreciation reception for the Society's employees on Thursday, June 16. The event was attended by the APS staff, Council and Committee chairs. APS Executive Director Martin Frank and President Eaton, on behalf of the Council and chairs, thanked the staff for their efforts over the past year. Eaton said that it was an honor to be president of such a quality organization, and a pleasure to work with the APS staff.

During the appreciation reception, a ceremony is held to recognize those staff members who have served the Society. This year, Eaton presented a 25+-year certificate to Samer Masri (Circulation Manager); 20-year certificate to Martin Frank (Executive Director); 10-year certificates to Teki Bynum (Peer Review Coordinator), Virginia Million (Journal Supervisor); and 5-year certificates to Desiree Rye (Journal Supervisor), Kathleen Pleet (Copy Editor), Stephani Rozier (Subscription Database Specialist), Beverly Rude (Journal Supervisor), and Penelope Ripka (Peer Review Assistant). Eaton thanked the employees for their years of service. ❖

APS President Douglas Eaton, Beverly Rude, Stephani Rozier, Desiree Rye, Kathleen Pleet, Virginia Million, Samer Masri, Penny Ripka, Teki Bynum, and Martin Frank.

2004 APS Impact Factors Are Published by Thomson/ISI

Thomson/ISI has released its 2004 Science Edition of the Journal Citation Reports, which gives journal impact factors and rankings of 5,968 science journals. The 2004 impact factors of the journals of the APS, along with a comparison of the past three years, are given in the table below. The table also shows the rank of APS journals in the physiology category, and each journal's rank in its related field, as well as each journal's cited half-life. ❖

Table 1. APS Journal Impact Factors and Rankings.

Journal	2001	2002	2003	2004	2004 Cited Half-Life	2004 Rank, Physiology (out of 73)	2004 Rank, Related Field	Related Field
PRV	30.061	26.532	36.831	33.918	6.7	1		
AJP-Endo	3.324	3.62	3.828	4.431	6.1	6	16 of 87	Endo & Met
AJP-Renal	4.523	5.044	4.344	4.354	6.2	7	3 of 52	Urol & Nephr
AJP-Lung	3.658	3.9	3.735	4.051	4.8	9	4 of 33	Respiratory
AJP-Cell	3.896	3.936	4.103	3.939	6.3	10	48 of 155	Cell Bio
Phys Gen	3.352	4.667	4.368	3.855	2.8	11	49 of 155	Cell Bio
							68 of 261	Biochem/Mol Bio
JN	3.517	3.743	3.876	3.592	7.7	12	48 of 198	Neuroscience
AJP-Heart	3.232	3.369	3.658	3.539	6.2	13	9 of 71	Cardio
AJP-GI	3.66	3.346	3.421	3.479	6.1	14	12 of 46	Gastro & Hep
AJP-Regu	2.437	3.156	3.627	3.405	6.6	15		
NIPS	1.817	2.715	3.682	3.306	4.5	17		
JAP	2.581	2.72	3.027	2.824	>10.0	21	1 of 71	Sport Sciences
Advances	0.186	0.744	0.755	1.291	2.9	49	3 of 20	Education

Correction

In the August, 2005 issue of *The Physiologist*, on page 181, the following was printed:

"Gore thanked the APS Teaching Section and the APS for the great honor. He said the he 'would say one thing about teaching, people who tell the story, tell the story."

The actual quote from Robert Gore should have been:

"The people who tell the story, shape the culture."

We apologize to Dr. Gore for the misquote. ❖

Nebraska Physiological Society Annual Meeting

The eighth annual meeting of the Nebraska Physiological Society (NPS) was held on Friday, May 20, in the Durham Research Center at the University of Nebraska Medical Center (UNMC), Omaha, NE. Attendance at the meeting totaled 93 registered individuals, and 38 research posters were presented by graduate students and postdoctoral fellows from seven research institutions. The meeting began at 9:00 am with a welcome and introductory remarks from **Andrea Cupp**, NPS President and Professor, Department of Animal Science, University of Nebraska, Lincoln, NE (UNL).

The APS-sponsored keynote address was presented by John H. Nilson, Edward R. Meyer Distinguished Professor, Director, School of Molecular Biosciences, Washington State University. The topic of Nilson's presentation was "Targeted Overexpression of LH in Transgenic Mice: an Endocrine Train Wreck that Signals Hypersecre-tion of Several Hormones, Engineers Multiple Tumors, and Derails Expression of a Plethora of Genes."

The student presentations followed the APS lecturer. Four students (two graduate and two postdoctoral) finalists were selected to present their research projects. Each presenter was allowed a 10-minute session followed by a short question/answer period. The finalists were selected based on the quality of the abstracts submitted. Awards of $250 were presented to: Tarek M. Mousa, Dept. Cellular & Integrative Physiology, UNMC, Postdoctoral Fellow Award: "Exercise Training Enhances Baroreflex Sensitivity by an Angiotensin II Dependent Mechanism;" and Lynn Roy, Dept. Pharmacology, UNMC, Graduate Student Award: "Effects of Aldehyde Adducts on RyR2 Function."

The student presentations were followed by an educational presentation by Barbara Goodman, Professor and Director of Special Programs and Science Education, University of South Dakota: "Physiology Education: What Works and What Works Better."

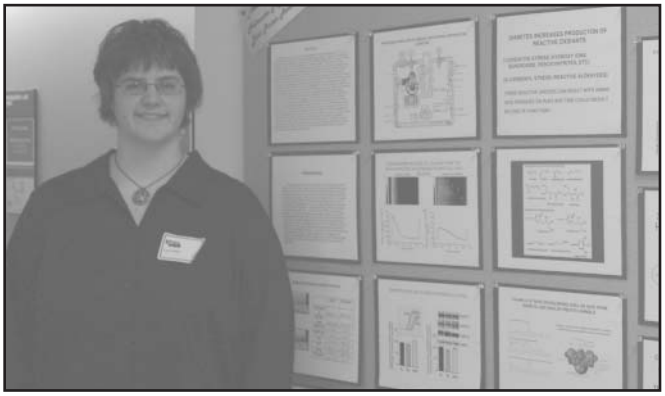
The morning session concluded with an update on the state of the American Physiological Society presented by Irving H. Zucker, Professor and Chair of the Department of Cellular and Integrative Physiology, UNMC. Zucker highlighted current programs and activities of the parent society.

The NPS business meeting followed lunch. Janet Steele, Dept. Biology, University of Nebraska, Kearny NE, (UNK) updated the members on the status of the Nebraska Local Outreach Team (LOT), which is a branch of the APS Frontiers in Physiology program. Harold Schultz, NPS Secretary-Treasurer and Professor, Department of Cellular and Integrative Physiology, UNMC, presented the current financial status of the NPS. He noted that the current financial status of the NPS is sound and thanked this year's sponsors for their support. Sponsors included the American Physiological Society, the Department of Physiology and Biophysics, UNMC; the Department of Animal Science, UNL; the Dean's Office of the College of Medicine, UNMC; the Dean's Office of the School of Medicine, Creighton University, Omaha, NE; The Nebraska Medical Center; Corporate sponsors were North Central Instruments; AdInstruments; Visual Sciences; and Columbus Instruments.

NPS President Cupp presented a plaque to honor prior NPS president, Dale Bergren, Department of Biomedical Sciences, Creighton University. Cupp then thanked the staff for their help and support during her presidency: Cindy Norton, Dorothy Burgin, Pearl Sorensen, and Richard Robinson. She then introduced NPS President for the coming year William Mayhan, Department of Cellular & Integrative Physiology, UNMC.

Officers for the coming year are: President: William G. Mayhan, Dept. Cellular & Integrative Physiology, UNMC; President-Elect: Harold D. Schultz, Dept. Cellular & Integrative Physiology, UNMC; Secretary/Treasurer: George J. Rozanski, Dept. Cellular & Integrative Physiology, UNMC; Councilor: J. Joe Ford, USDA Meat Animal Research Center, Clay Center, NE; Councilor: Kaushik P. Patel, Dept. Cellular & Integrative Physiology, UNMC; Councilor: Janet E. Steele, Dept. Biology, UNK.

Following the business meeting participants visited the sponsors' displays and viewed the research posters. Departments and institutions represented in the poster session included the Departments of Cellular and Integrative Physiology, Pharmacology,



Nebraska Physiological Society Predoctoral Student Winner, Lynn Roy, Department of Pharmacology and Experimental Neuroscience University of Nebraska Medical Center.

Nebraska Physiological Society Postdoctoral Fellow Winner Tarek Mousa, (right) Irving H. Zucker, (left) mentor Department of Cellular and Integrative Physiology University of Nebraska Medical Center.

Genetics Cell Biology & Anatomy, Obstetrics and Gynecology, Olson Center for Women's Health, Pediatrics, and Internal Medicine, UNMC; VA Medical Center, Omaha, NE; Departments of Animal Science, and Statistics, UNL; Departments of Biomedical Sciences, Pharmacology, and Internal Medicine, Creighton University, Omaha, NE; Department of Biology, UNK; U.S.D.A. Meat Animal Research Center, Clay Center, NE; Department of Molecular & Integrative Physiology, University of Kansas Medical Center, Kansas City, KS; Vascular Biology Center, Medical College of Georgia, Augusta, GA; Department of Animal Science, University of Missouri, Columbia, MO; Center for Conservation & Research, Henry Doorly Zoo, Omaha, NE; Purdue University, West Lafayette, IN; Sygen International, Franklin, KY; Archer Daniels Midland Co.; Wyeth Research, Philadelphia, PA.

The meeting concluded at 4:00 pm with a tour of the new research facilities in the Durham Research Center. ❖

Harold Schultz, Secretary/Treasurer

Award-winning Cover for *Physiological Reviews*

The APS is happy to announce that the cover illustration for the July 2005 issue of *Physiological Reviews* received the Award of Excellence in the Professional Editorial Category in the Salon Exhibition at the 60th Annual Association of Medical Illustrators (AMI) meeting on July 31, 2005.

Scott Weldon, the Supervisor of medical illustrators in the Michael E. DeBakey Department of Surgery of Baylor College of Medicine, has been working with Susan Hamilton, Editor of the Journal, since late 2004 to provide illustrations for the covers of *PRV* that demonstrate a physiological concept from one of the articles in that issue. His first cover appeared January 2005.

In discussing his pleasure at receiving this award, Weldon said, "This award is particularly special because the editorial category is always highly competitive."

"We are pleased to see Scott recognized for his beautiful illustrations and for this kind of interest to be shown in *PRV*," stated Margaret Reich, APS's Director of Publications. ❖

FASEB Journal Announces New Editor, Gerald Weissmann

The Federation of American Societies for Experimental Biology (FASEB) has announced that **Gerald Weissmann** will become Editor in Chief of *The FASEB Journal* on October 1, 2005. Weissmann is professor of medicine and director of the Biotechnology Study Center at the New York University School of Medicine. Vincent T. Marchesi, who has served as Editor in Chief for the past 10 years, will act as co-editor through the end of the year to provide an effective transition of leadership. Weissmann stated he wants to "make *The FASEB Journal* a new voice for science, a journal that serves as a lively stimulus to new thought." To this end, the journal will start to feature essays, opinion pieces, reviews, and editorials. The first op-ed will speak on the facts of evolution.

Weissmann graduated from NYU College of Medicine in 1954. He has received the Lila Gruber Award for Cancer Research, a Guggenheim Fellowship, the Allesandro Robecchi and Paul Klemperer awards for inflammation research, and the Distinguished Investigator Award of the American College of Rheumatology. He was a co-founder and director of The Liposome Company during 1982-2000. A master and past president of the American College of Rheumatology and a past president of the Harvey Society, Weissmann also was elected a Fellow of the American Association for the Advancement of Science and the New York Academy of Medicine. He is a trustee of the Marine Biological Laboratory, Woods Hole, Mass., and is on the Advisory Board of the Ellison Medical Foundation.

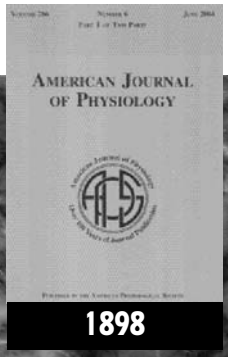
"Gerry is an inspired choice who will bring many creative ideas to the journal," said FASEB Chief Executive Officer Frederick Rickles. "I have known him personally and professionally for more than 20 years and have great respect for him as a scientist, teacher, innovator, humanist, and popular author. He is a scholar in the true sense of the word, with wide-ranging interests and talents."

FASEB is composed of 23 societies with more than 65,000 members, making it the largest coalition of biomedical research associations in the United States. FASEB's mission is to enhance the ability of biomedical and life scientists to improve—through their research—the health, well-being and productivity of all people. FASEB serves the interests of these scientists in those areas related to public policy, facilitates coalition activities among Member Societies and disseminates information on biological research through scientific conferences and publications. ❖

The American Physiological Society

CLASSIC ARTICLES

Commemorating the APS Legacy Project—more than 100 years of the APS Journals content



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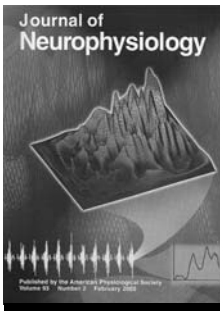

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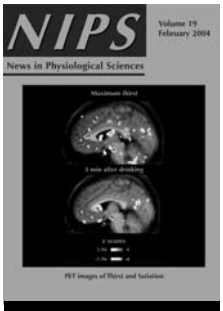

1986

The American Physiological Society is proud to announce that the full historical content of its 14 journals, going back to the very first issues of *the American Journal of Physiology* in 1898, is now available online—as the APS Legacy Project.

To commemorate this event, we have asked a group of expert authors to write essays on some of the most significant articles from the body of APS literature.

A Few Samples of the Classic Articles

Listed below are a few of the Classic Articles which have been singled out for essays written by eminent scientists with first-hand or personal experience in the field. All the essays and Classic Articles are free for viewing by all users at this web site:

www.the-aps.org/publications/classics

Cannon WB. The emergency function of the adrenal medulla in pain and the major emotions. *Am J Physiol* 33: 356-372, 1914.

Fenn WO, Rahn H, and Otis AB. A theoretical study of the composition of the alveolar air at altitude. *Am J Physiol* 146: 637-653, 1946.

Guyton AC, Lindsey AW, and Kaufmann BN. Effect of mean circulatory filling pressure and other peripheral circulatory factors on cardiac output. *Am J Physiol* 180: 463-468, 1955.

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The American Physiological Society

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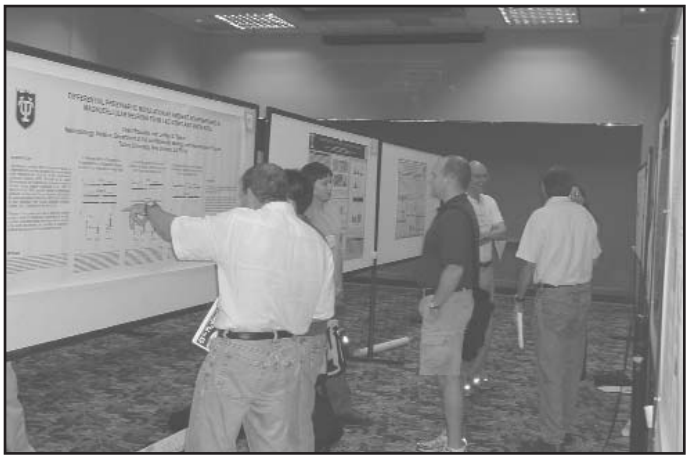
Neurohypophyseal Hormones: From Genomics and Physiology to Disease

July 16-20
Steamboat Springs, CO

A small skiing community called Steamboat Springs, located in northwestern Colorado served as the backdrop for the 2005 APS Conference, Neurohypophyseal Hormones: From Genomics and Physiology to Disease. The meeting took place over five days at the Sheraton Steamboat Resort and Conference Center, which overlooked spectacular views of the majestic Rocky Mountains, lush green slopes, the meandering Yampa River, and the many ski lifts and gondolas. The Organizing Committee for this meeting was chaired by Celia Sladek of the University of Colorado Health Sciences Center, Robert Schrier also from the University of Colorado Health Sciences Center, William Armstrong of the University of Tennessee School of Medicine, J. Thomas Cunningham of University of Texas Health Sciences Center, San Antonio, and Joseph Verbalis of Georgetown University. The organizers worked together to select the wide array of different symposia, speakers, topics, and social networking opportunities in order to make this meeting exciting and productive for the attendees.

The conference was attended by 149 total registrants: of whom 24% of registrants were represented by young scientists, including 14 postdoctoral and 23 students. Nineteen attendees were APS members (13%), and 43 attendees were nonmembers (29%), and invited chairs and speakers made up the remaining fifty registrants (34%). Table 1 (below) shows the breakdown of the different registration types. The meeting program also attracted a large group of registrants from outside of the United States. Out of 149 registrants, 51 (34%) represented the countries of Australia, Brazil, Canada, Denmark, France, Germany, Italy, Japan, New Zealand, The Netherlands, Sweden, and the United Kingdom.



APS Conference attendees at the poster sessions.

The meeting opened with a Welcome and Opening Reception, which gave the attendee's a chance to meet with long time colleagues and enjoy some hot and cold hors d' oeuves and wine. The reception was followed by the Keynote Lecture given by Peter Agre of Johns Hopkins School of Medicine (and moving to Duke University), who gave a presentation on Aquaporins and Human Disease. The program included three keynote lectures, presented by Peter Agre, Mitsuhiro Kawata of Kyoto Prefectural University of Medicine, and Larry Young of Emory University School of Medicine respectively, and ten symposia sessions over the course of the meeting. The audience was encouraged to share their ideas and thoughts with the speakers at the end of their talks. There were also three poster sessions where scientists presented their work. A total of 107 abstracts were submitted for the meeting. Eighty of these abstracts were programmed as poster presentations. The remaining twenty-seven abstracts were submitted by invited speakers. Of the abstracts submitted for the meeting, 37 (35%) had a female first author; 56 (52%) were submitted from institutions outside of the United States, including 30 from Europe, 16 from Japan, six from Canada, as well as from Brazil, Iran and New Zealand.

During the meeting there was a break from the scientific sessions, which allowed meeting attendees time

Meeting organizer Celia Sladek at the banquet and awards dinner.

Table 1. Registration Statistics

Registration Type	Number of Attendees (%)
APS Member	19 (13%)
Nonmember	43 (29%)
Postdoctoral	14 (9%)
Student	23 (15%)
Invited Chairs/ Speakers	50 (34%)
Total	**149**

During some free time, meeting attendees gather for a group hike to Rabbit Ears Peak.

Attendees taking in the spectacular views of Steamboat Springs.

to explore the beautiful and breathtaking views of Steamboat Springs and Yampa Valley. Sladek arranged a fly-fishing clinic for attendee's who wanted to try their hand at catching dinner for the evening! Or for the more adventurous attendees, a hike up to nearby Rabbit Ears Peak was invigorating. For those who wanted a quiet relaxing afternoon, the sparkling pool by the hotel, or a round of golf on the Sheraton Steamboat Golf Course, or browsing through the unique and interesting shops in downtown Steamboat Springs was just the ticket.

On Tuesday evening, Sladek hosted the Banquet and Awards Presentation dinner. Attendees gathered under the canopy over the pool deck for evening dinner, wine and conversation with new and old colleagues. During the evening, a classic country rock band called The Blue Rooster Band played music while attendees enjoyed their meal. The awards presentation recognized four recipients of the Research Recognition Award for Outstanding Abstract Presentation by a Graduate Student or Postdoctoral Fellow. The following awardees were presented with a certificate and cash prize: Meghan Taylor, St. Louis University, Paula Brunton, University of Edinburgh, Reza Sharif Naeini, McGill University and Richard Bouley, Massachusetts General Hospital. In addition, Maria Herrera from Michigan State University was the recipient of the Porter Physiology Development Committee's Minority Travel Fellowship Award, which is provided to encourage participation of under-represented minority students. With support from the National Institutes of Diabetes and Digestive and Kidney Diseases (NIDDK), the fellowship provides reimbursement of all expenses associated with travel and participation in the conference. The recipient was matched with APS member Catherine Uyehara of the Tripler Army Medical Center, who was attending the conference, offered guidance and made introductions to the other scientists.

The American Physiological Society and the Organizing Committee gratefully acknowledges the financial support provided through generous educational grants from Astellas Pharmaceuticals, Inc., GlaxoSmith-Kline Pharmaceuticals, NIH-NIDDK, Wyeth Research and Olympus. ❖

Celia Sladek with the Young Investigator Awardees: Meghan Taylor, Paula Brunton, Celia Sladek, Reza Sharif Naeini and Richard Bouley.

Celia Sladek presents the NIDDK travel awardee Maria Herrera with a certificate.

New Regular Members

***transferred from Student Membership**

Dirk Adriaensen
Univ. of Antwerp, Belgium
Larry D. Alexander*
Univ. of Michigan, Dearborn
Kemakolam Amadi
Univ. of Jos, Plateau, Nigeria
Christopher M. Anstey
Nambovr Hosp., Nambovr, Australia
Gohar Azhar
Univ. of Arkansas Med. Sch.
James R. Bamburg
Colorado State Univ., Fort Collins
Albert J. Banes
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Hairu Chen
Univ. of South Alabama Coll. of Med
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Case Western Reserve Univ., OH
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US Army Inst of Env. Med., MA
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Alaska Dept of Fish and Game
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Univ. of Western Ontario, Canada
Ellen Covey
Univ. of Washington, Seattle
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Univ. of Florida
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Cleveland Clinic Foudation, OH
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Gaziosmanpasa Univ., Tokat, Turkey
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Virginia Commonwealth Univ.
Martin Foltz
Unilever Res. & Dev., The Netherlands
Atam P. Gaihotra
Punjab Agricultural Univ., India
Maureen A. Gannon
Vanderbilt Univ., TN
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Univ. of New South Wales, Australia
James G. Granneman
Wayne State Univ. Sch. Med., MI
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Henry Ford Hospital, MI
Yan Huang
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Inonu Univ. Fac. Med., Turkey
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Osaka City Univ., Japan
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Victoria Univ. of Technology, Australia
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Qianli Yu
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Michigan State Univ.

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Marla Richmand
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West Virginia Univ.
Hamid Ajirnia
Notre Dame de Namor, Belmont, CA
Felipe Araya
Auburn Univ., AL
Eirini Babarouts
Harokopia Univ., Greece
Aaron Barlond
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Ladislav Krulich
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Highland, IN

FY 2006 Funding Outlook

The appropriations process for Fiscal Year 2006 (FY '06) was off to a good start early this summer with the House of Representatives finishing all of its spending bills before the August Congressional recess. However, the Senate appropriations committee was able to complete only five of twelve bills. Given other Congressional priorities, it is unlikely that the budget process will be complete before the new fiscal year begins October 1. In fact, some observers are already predicting that several of the Senate bills may never reach the Senate floor and will instead be combined into an omnibus bill.

See below for House and Senate proposed budgets for biomedical research.

NIH

The Senate Appropriations subcommittee on Labor, Health and Human Services and Education has recommended an increase of $1 billion for the National Institutes of Health (NIH), which would raise the budget to $29.6 billion, or 3.7% over the FY '05 funding levels. In contrast, the House of Representatives allocated only an additional $138 million to the agency, 0.5% over last year's level. An increase as low as 0.5% would fall far below the projected rate of biomedical inflation (3.2%) and is predicted to cause a loss of approximately 402 research project grants.

The Senate provided the NIH with a larger increase by performing some accounting maneuvers that allowed it to work with an additional $2.7 billion. The significant difference between the NIH budgets proposed by the two committees means that the numbers will have to be reconciled in conference when the two chambers come together to develop final versions of spending bills, and where it is unlikely that the House will agree to the accounting gimmicks used by the Senate.

NSF

The National Science Foundation (NSF), which suffered significant cuts in the FY '05, has also received differenting budget numbers from House and Senate appropriators. The House provided a $171 million increase over last year's budget, bringing the NSF budget to $5.6 billion, a 3.1% increase. The Senate came up with a smaller increase of $58 million (1.1% over FY '05). Particularly hard hit in this year's budget are the education programs at NSF, and the money added back by the House was intended to restore some of the education funds. As with the NIH, these differences will have to be worked out in conference.

NASA

As NASA moves forward with the space shuttle program and the moon-Mars initiatives, Congress has provided the agency with increased funding. The House added $275 million to last year's budget for a total of $16.471 billion, while the Senate added $200 million. Despite the overall increase for the agency, Human Systems research is slated to be cut to $800 million, down from $925 million in the last fiscal year.

Veterans' Affairs

Both the House and the Senate have allocated $393 million for medical and prosthetic research at the VA, down from $402 million in FY '05. Moreover, the House included language recommending that 20% of the research budget be focused on mental health research, which would be a sharp increase from the 7% currently being spent. FASEB sent letters to Senators Feinstein and Hutchison, who lead the military construction and veterans' affairs appropriations subcommittee, endorsing the need for mental health research but calling for the addition of funds to avoid cuts in other programs.

NIH Reauthorization

On July 19, 2005, the House of Representatives Committee on Energy and Commerce held a hearing to discuss reauthorization of the National Institutes of Health (NIH). All federal agencies require periodic Congressional authorization so that lawmakers can provide guidance and oversight, as well as to set funding levels. Authorization of the NIH falls under the jurisdiction of the Energy and Commerce committee in the House of Representatives, and the Health, Education, Labor and Pensions committee in the Senate. Although Congress should reauthorize the NIH regularly (every two years), the agency does not require reauthorization in order to function, and the agency was last reauthorized in 1993. In the absence of a reauthorization bill, appropriators in Congress often include authorizing language in the yearly spending bills for the agency.

The House Energy and Commerce Committee, led by Chairman Joe Barton (R-TX) is looking to reassert its authority over the NIH and has circulated a draft reauthorization bill. The draft bill was discussed at the July 19 hearing at which Elias Zerhouni, NIH director, was the only witness. Outlined below are some of the more significant items contained in the first draft of the bill.

Structural Reorganization

The draft bill divides the agency's many institutes and centers (ICs) into two broad categories: those that are mission specific and those that are science enabling. Mission specific ICs are those associated with a specific disease, organ or life stage. Among the 15 ICs in this category are the NHLBI, NIAID and NIDDK. Science enabling ICs are those that conduct basic science and training activities, those that deal with emerging disciplines, cross-cutting issues and clinical and translational activities. NIGMS, NHGRI and NLM are among the nine ICs that fall into this category. The bill limits the total number of ICs to the current 15 mission specific and nine science enabling, and contains a number of provisions outlining the procedures for reorganizing, creating and abolishing ICs.

In addition to categorizing the ICs, the reauthorization would define four main entities within the NIH: the Office of the Director (OD), a newly created Division of Program Coordination, Planning and Strategic Initiatives (DPCPSI), the mission specific institutes and the science enabling institutes. The main purpose of the DPCPSI would be to coordinate trans-NIH activities and through this division, the director to have grant-making authority.

Director's Authority

The bill outlines the authority of the NIH Director to include responsibility for program coordination, priority setting, and strategic planning for all research activities conducted or supported by NIH. The bill specifies that the Director will have an Advisory Council to provide advice on matters of research and policy. Currently the NIH director has the authority to use 1% of the total NIH budget to conduct trans-NIH activities. Under the new bill, the director's transfer authority would increase, and while the draft bill did not specify that percentage, Zerhouni testified at the hearing that 5% would be an appropriate starting point. This is consistent with the recommendation of the Institute of Medicine from its 2003 report on organizational changes at NIH.

Appropriations

Under the current version of the reauthorization bill, Congress would specify the budgets of only the four entities listed above. This would be a change from the current system where Congress provides a specific dollar amount for each IC. In order to ensure some stability in the budgets, the committee may specify a minimum amount that each IC should receive. In addition to changing the way Congress funds the NIH on a yearly basis, there has been discussion of placing a ceiling on the overall budget growth of the agency over the next several years.

Reporting Requirements

The reauthorization bill directs NIH to develop an electronic system to code grants, which would also provide information on associated patents and publications. The bill eliminates some of the present reporting requirements and mandates a biennial report to Congress on the state of biomedical research, complete with a strategic plan and a catalog of research activities organized by specific disease categories.

In addition to the changes described above, the NIH reauthorization bill establishes two new demonstration programs: Bridging the Sciences, and High Risk, High Reward Research. Bridging the Sciences would allow the NIH director to make grants in consultation with the NSF and DOE to fund research at the interface of biological and physical, chemical, mathematical and computational sciences. The High Risk, High Reward Research program would provide funding for high-impact innovative research and encourage public-private partnerships. Both of these grant programs would require peer review.

Taken together, the changes included in the reauthorization bill are intended to allow the agency to have more flexibility to respond to changing and emerging needs in public health. In the past, NIH reauthorization has been stalled due to numerous and sometimes controversial additions to the bill by Members of Congress. The success of this bill will depend in part on whether Chairman Barton can maintain this as a "clean" bill. However, while NIH reauthorization has been a priority for Chairman Barton's House Energy and Commerce committee, the Senate Health, Education, Labor and Pensions Committee has yet to take up the measure.

FASEB Welcomes the Association of American Physicians

The Federation of American Societies for Experimental Biology (FASEB) is pleased to welcome the Association of American Physicians (AAP) into the Federation. In commenting on the decision, FASEB President Bruce Bistrian, said, "It is a great honor to welcome the distinguished members of AAP to FASEB."

The FASEB Board voted on June 14, 2005, to accept AAP as the 23rd member society in the coalition.

AAP was founded in 1885 by seven physicians and now has 1,000 active members. The goals of its members include the pursuit of medical knowledge and the advancement of knowledge through experimentation and discovery of basic and clinical science and the application to clinical medicine. Each year, 55 individuals who have attained excellence in achieving these goals are recognized through nomination for membership. The current president of AAP is Jerrold M. Olefsky, Professor of Medicine, at the University of California, San Diego. "The Association of American Physicians is pleased to join other biomedical science research groups in working with FASEB to increase public awareness of the need for maintaining strong support for biomedical research and education in these times of unparalleled opportunity for enhancing human health," said Olefsky.

FASEB is composed of 23 societies with more than 65,000 members, making it the largest coalition of biomedical research associations in the United States. FASEB's mission is to enhance the ability of biomedical and life scientists to improve—through their research—the health, well-being and productivity of all people. FASEB serves the interests of these scientists in those areas related to public policy, facilitates coalition activities among Member Societies and disseminates information on biological research through scientific conferences and publications.

APS to Sponsor 2006 Mass Media Fellowship

For the eighth consecutive year, APS will sponsor an American Association for the Advancement of Science (AAAS) Mass Media Science and Engineering Fellow for summer 2006. Applications are due to the AAAS by **January 15, 2006**.

The APS-sponsored fellow will be one of approximately two dozen AAAS Mass Media fellows who will spend 10 weeks during the summer working in the newsrooms of newspapers, magazines, Internet news outlets, and radio and television stations. Fellows will receive a short training course in science journalism prior to the fellowship, and will spend the summer developing their ability to communicate complex scientific issues to nonscientists and improving public understanding of science. The AAAS arranges placements at participating media outlets as part of the selection process. The fellowship includes travel to Washington for orientation and evaluation sessions at the beginning and end of the summer, as well as travel to the job site and a weekly stipend based upon local cost of living.

Individuals must be currently enrolled as a graduate or postgraduate student of physiology or a related disci-

pline to apply for the APS fellowship. The application form is available in the "Student Awards" section of the APS website at http://www.aaas.org/programs/education/MassMedia/apply.shtml.

Additional fellowships are available for students in other scientific and engineering disciplines. Information about the program is posted on the AAAS Education and Human Resources Directorate website at http://ehrweb.aaas.org/massmedia.htm. A brochure with additional information about the program is also posted on both web sites.

In addition to the application form, applicants must submit a current résumé, a three- to five-page sample of writing directed to the general public, transcripts of graduate and undergraduate work, and three letters of recommendation. Two of the recommendation letters should be from faculty members, and the third should be a personal reference. The selection process is designed to seek out qualified candidates especially from underrepresented communities, including African-Americans, Hispanics, Native Americans, and scientists with disabilities.

For more information, contact Mayer Resnick in the APS Communications Office. (Telephone: 301-634-7209; Email: mresnick@the-aps.org).

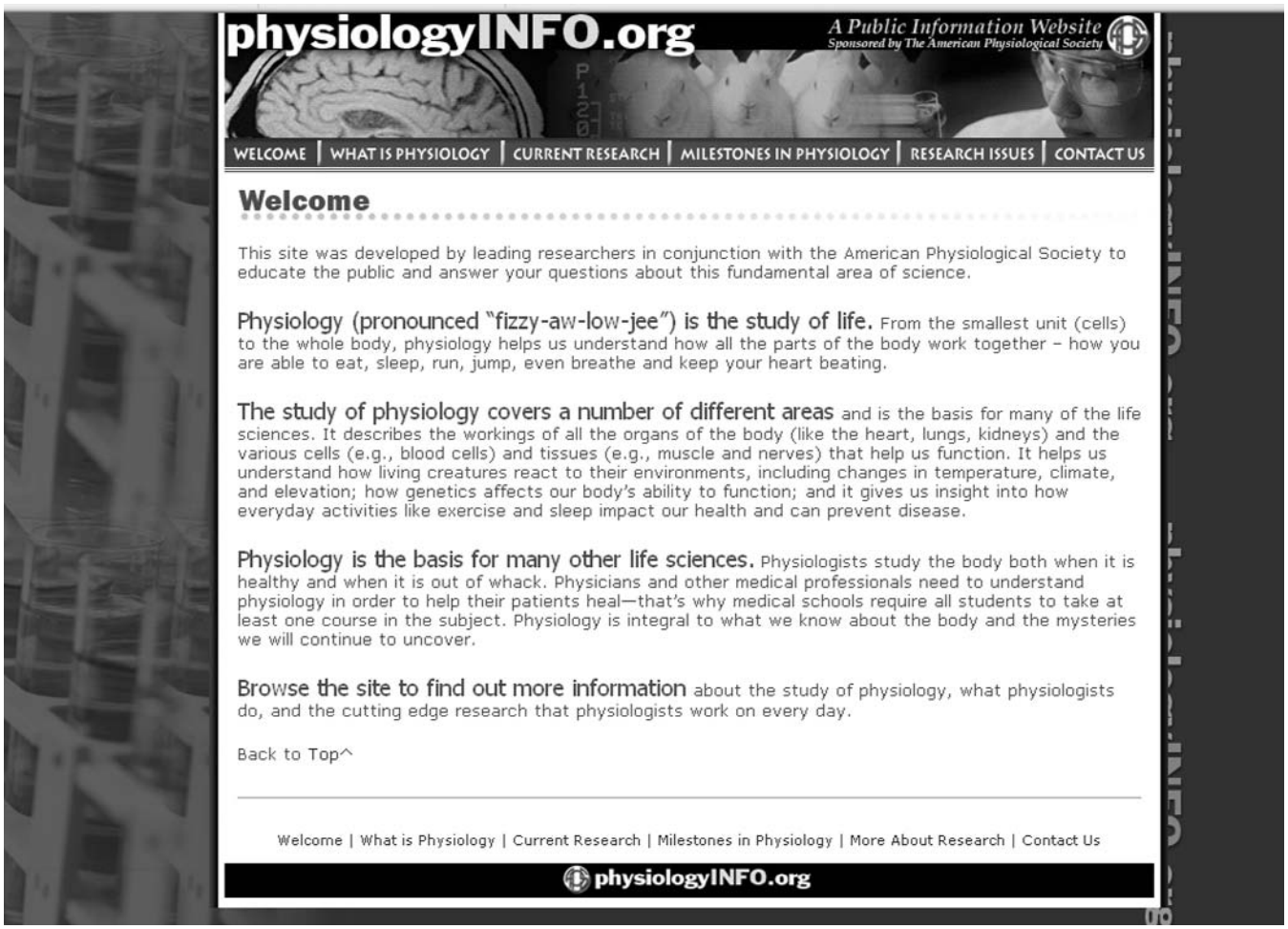
www.physiologyINFO.org Provides a Public Window Into Biomedical Research

In September, the American Physiological Society launched http://www.physiologyINFO.org, a new website aimed at informing and educating the general public about physiology. The site, geared specifically toward non-scientists, provides current information about advances in physiology. http://www.PhysiologyINFO.org will not only help people recognize the word "physiology," but it will also increase understanding of what physiologists do, and establish the discipline (in the eyes of the public) as one upon which most other biomedical sciences are based.

Spearheaded by the Communications Committee under its first chair, Andrea Gwosdow, http://www.PhysiologyINFO.org pulls together resources developed with the general public in mind. Included are Education, Public Affairs, Publications, Careers and Communications materials that discuss physiology in everyday terms.

Additionally, it provides interesting physiological facts and contextualizes the diverse contributions that physiologists have made throughout the history of medicine.

"This initiative will help put a public face on our discipline, and encourage more interactions between APS members and the public that supports our research," said Hannah Carey, current chair of the Communications Committee.



Among the available resources:

white papers and "hot" research modules on topics including obesity, animal research and environmental physiology;

fun experiments in physiology that can be done at home;

historical information on famous figures (like Beaumont, Pavlov, Watson & Crick) and milestones (like the first human heart transplant, isolation of insulin) in physiology;

access to research papers and scientific articles provides users the option to explore physiology in as much or as little detail as they choose.

With the launch of this site, APS continues toward its goal of making communicating science to the public a priority. It is intended to be both an educational resource for students and teachers, and an informational resource for taxpayers whose dollars and support fund scientific research. Design and editorial coordination was led by Communications Specialist Stacy Brooks.

http://www.physiologyINFO.org will be updated frequently so check back often. Members are encouraged to contact Communications Officer Mayer Resnick (mresnick@the-aps.org) if they are interested in developing lay-friendly materials for the new site. ❖

Animal Care and Experimentation Committee

Pain and Distress Management Issues

In 2005 the Animal Care and Experimentation Committee (ACE) Committee identified the management of pain and distress in laboratory animals as a policy priority. This is a matter of concern both to the scientific community and the public. Animal research protocols are required to include provisions to relieve pain and avert distress consistent with the scientific aims of the study, and while researchers support animal welfare, they sometimes find themselves at odds with their institutional animal care and use committee (IACUC) about what measures are actually needed. This disagreement over appropriate measures is potentially problematic since public support for animal research is known to vary depending upon whether the research is seen as scientifically necessary and humanely conducted.

The Humane Society of the United States (HSUS) has chosen pain and distress as the focal point of its biomedical research programs. In 1999, the HSUS petitioned the USDA to implement a regulatory definition of "distress" and a new system for categorizing and reporting pain and distress in regulated species, and the following year, the USDA asked the public for comments on issues raised in that petition. Consequently, in August 2000, APS worked with FASEB to organize a conference in which research scientists and lab animal veterinarians evaluated regulatory requirements in the context of current scientific knowledge. The summary of these discussions was widely disseminated within the research community, which led to an outpouring of comments. The USDA has not pursued efforts to change its pain and distress management requirements, but this remains a topic of ongoing policy discussions.

At its EB 2004 meeting, the ACE Committee recommended that the APS initiate a round of discussions about pain and distress that would include both scientists who study these phenomena and lab animal veterinarians. One motivating factor for this undertaking was the view of some researchers that certain widely accepted beliefs about pain management may be erroneous. For example, the prevailing assumption is that analgesics are benign, but in some cases non-drug interventions such as training, pair-housing or nursing care may do more to enhance animal welfare than drug regimens, which may have deleterious side effects. The Committee recognized that both researchers and IACUCs would benefit from guidance on pain and distress categorization and management.

Council subsequently approved a request for funds to support an APS-sponsored workshop on pain and distress. ACE Committee member **William Martin** agreed to chair this workshop, which was held on January 28, 2005, in Bethesda. Participants included scientists, laboratory animal veterinarians, and research policy specialists who work in this field. The scientists present strongly agreed on the importance of clarifying the distinction between pain and distress and de-coupling pain from distress in terms of regulation and oversight. The group also tried to arrive at a definition of distress that would be a scientifically valid definition, as well as something that IACUCs can easily use. At the conclusion of the workshop, those present agreed to stay in touch as an informal expert working group.

As a result of efforts by working group participants, Martin, along with participant James Herman of the Endocrine Society, were invited to present a workshop session on pain and distress issues at a March 2005 annual conference on IACUC issues sponsored by Public Responsibility in Medicine and Research (PRIM&R). Martin and other working group members have also been invited to present a session at the AALAS National Meeting in November in St. Louis, MO. The strong recommendation of the working group concerning the need to delink pain and distress, as well as the need for a scientifically valid working definition of distress, were also seen as an influential factor in subsequent discussions about how the Institute for Laboratory Animal Research (ILAR) should approach updating its 1992 report on pain and distress.

Another objective of the working group meeting was to discuss the development of resources that may be helpful to physiologists and other scientists. To this end, the working group acknowledged the importance of publishing journal articles on topics related to the management of pain, stress or distress. Workshop participant **Linda Toth**, who recently became the editor of *Contemporary Topics in Laboratory Animal Science*, indicated that such articles provide veterinarians, scientists and IACUCs with the latest research on topics relevant to the design and review of protocols involving pain or stress. APS member and non-member scientists are encouraged to submit articles on these topics to the relevant journals.

APS Resource Book for the Design of Animal Exercise Protocols

One on-going ACE project that is nearing completion is the development of an APS Resource Book for the Design of Animal Exercise Protocols. This project is an effort to provide information to assist investigators in how to design exercise research protocols. It is also intended to provide

guidance to IACUCs that must review such protocols, as well as to journal reviewers and editors. Council charged the ACE Committee with this project in 2002. A group of exercise research experts agreed to serve as an authoring committee and met several times from 2002 through 2004. Other members of the authoring committee provided expertise in laboratory animal medicine and other scientific disciplines that utilize exercise as an experimental intervention. In February 2005, the draft was completed and was circulated by **Kenneth Baldwin** for external review. Final revisions were expected to be completed by mid-summer and the resource book should be published by the end of 2005.

Animals in Education Task Force

The ACE Committee, along with the Education Committee, have long been concerned about issues related to the use of animals in teaching. In 2003, Council established a task force on the use of animals in education that involved representatives of both committees. In support of the task force's work, APS Public Affairs Officer Alice Ra'anan conducted a review of the literature in which she documented the decline in the use of animal laboratory exercises and identified important questions about the educational impact of this trend. In Spring 2004 the task force presented Council with a draft policy statement on the use of animals in education. In Fall 2004 Council approved the revised statement and asked Education Committee Chair **Robert Carroll** to detail the rationale for this position, which is based upon the educational benefits to students with differing learning styles when instructors provide a variety of pedagogical approaches. The Council statement and the rationale were published in the August 2005 issue of *The Physiologist*. Council also asked Ra'anan to revise her background paper for submission to *Advances in Physiology Education*.

IUPS 2005 Symposium: International harmonization of animal welfare standards

New animal welfare regulatory standards under development by the Council of Europe and efforts to promote international "harmonization" of animal welfare standards are emerging areas of concern to APS members. The ACE Committee organized a symposium on "Transnational impacts of animal welfare regulations" that was presented at IUPS 2005. (A summary of the symposium was published in the August 2005 issue of *The Physiologist*.) The symposium was well-attended and attracted participation from both US and international scientists. Both the presenters and the audience acknowledged that this informational session was a necessary first step to ensure that researchers recognize the potential impact of changes in animal welfare regulations that are currently under discussion.

Presentations of ACE Committee Members at Animal Welfare Meetings

ACE Committee members regularly attend specialty meetings that deal with animal welfare oversight issues. There are several national meetings each year that offer ongoing education and training opportunities for IACUC members, veterinarians and scientists. Participation enables committee members to obtain the latest information about regulatory initiatives and current controversies. These meetings also represent opportunities for APS members to provide information to IACUC members about APS projects such as the Resource Book for the Design of Animal Exercise Protocols.

Collaboration with States United for Biomedical Research

For the past several years the APS has provided modest financial support to the state biomedical research associations and their umbrella organization, States United for Biomedical Research (SUBR). In addition, the Public Affairs, Education, and Communications offices at APS have been providing outreach materials. The APS offers links from its website to the SUBR websites and has encouraged these organizations also to link to our pages. This year the ACE and Public Affairs Committees recommended to Council a new collaboration in which SUBR would provide training and ongoing assistance to encourage physiologists to get involved in public outreach.

Congressional Advocacy on the Animal Welfare Act

The federal farm bill is due to be reauthorized in 2006, and it is anticipated that animal rights groups may once again seek to use this legislation as a vehicle to add new provisions to the Animal Welfare Act that would increase the regulatory burden associated with animal research. At a May 2005 National Association for Biomedical Research (NABR) conference, it was suggested that the research community make the members of the House and Senate Agriculture Committees aware of their support for animal welfare and opposition to excessive regulation. The APS Public Affairs Office intends to work closely with the ACE and Public Affairs Committees in this undertaking.

Kevin Kregel, Chair

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

Council authorized increased participation by the Committee in animal welfare conferences.

Awards Committee Report

The Awards Committee's efforts focus on reviewing applications for six awards: *1*) APS Postdoctoral Fellowship in Physiological Genomics; *2*) Research Career Enhancement Award; *3*) Teaching Career Enhancement Award; *4*) Arthur C. Guyton Award for Excellence in Integrative Physiology; *5*) Shih-Chun Wang Young Investigator Award; and *6*) Lazaro J. Mandel Young Investigator Award.

Although the numbers of applications for the Postdoctoral Fellowship in Physiological Genomics increased by 19 percent to 25 in 2005 from 21 in 2004, there seems to be a trend toward receiving fewer applications for this award. This seems paradoxical with the greater application of physiological genomics techniques. Other awards are attracting reasonably consistent, but low, numbers of applicants, but, clearly, there is no growth. Given the limited availability and stringency of funding for trainees, we should be receiving more applications. The Committee is investigating ways to achieve greater dissemination of information about these awards.

The Committee tracks the gender distribution of applicants and recipients. For the first time, female applicants for the Physiological Genomics Award outnumbered male applicants by 30 percent. Female recipients still lag behind based on the ratio of female to male applicants for all awards. However, there is a clear trend toward equal distribution of recipients.

Review Criteria. Standardized review and scoring criteria have been implemented for all awards. Such standardization, initiated by the previous Committee chair, Patricia Preisig, has helped the Committee to identify outstanding applicants based on objective and weighted factors. Briefly, grant applications are initially reviewed either by the whole committee or by three assigned reviewers. After applications are reviewed, the scores are submitted to the APS office where they were tabulated and distributed to the Committee. The Committee then has a conference call to discuss the applications. After the discussion, all participating Committee members score or re-score the applications and submit their scores to the APS office, where they are tabulated. APS Executive Director Martin Frank and I review the final scoring and identify the recommended award recipients.

2004-2005 Award Recipients

Postdoctoral Fellowship Award in Physiological Genomics

The committee received 25 applications and awarded two Postdoctoral Fellowships. The Fellowships were awarded to Julia Halperin, University of Illinois at Chicago, Department of Physiology & Biophysics, Chicago, IL, and Rasnapreet Sabharwal, Department of Internal Medicine, University of Iowa, Iowa City, IA. The fellows received a $32,000 stipend plus a $3,500 trainee allowance for the first year, and a $34,000 stipend and a $3,500 trainee allowance for the second year.

The Research Career Enhancement (RCEA) and Teaching Career Enhancement (TCEA) Awards

For the October 2004 deadline, the Committee received one application for the RCEA and five applications for the TCEA. No RCEA award was made. Two awardees for the TCEA were selected: Janis Beaird, Associate Professor, The University of West Alabama, Dept. of Biological & Environmental Sciences, Livingston, AL; and Laurie Kelly McCorry, Massachusetts College of Pharmacy & Health Sciences, Boston, MA.

Young Investigator Awards

The APS has three Young Investigator Awards: the Arthur C. Guyton Award for Excellence in Integrative Physiology, the Shih-Chun Wang Young Investigator Award, and the Lazaro J. Mandel Young Investigator Award. Two applications were received for the Lazaro J. Mandel Award**.** The award was presented to Rong Ma, University of North Texas Health Sciences Center. Three applications were received for the Shih-Chun Wang Award. The award was presented to David L. Allen, Assistant Professor, Dept. of Integrative Physiology, University of Colorado, Boulder, CO. The Arthur C. Guyton Award for Excellence in Integrative Physiology was not awarded this year.

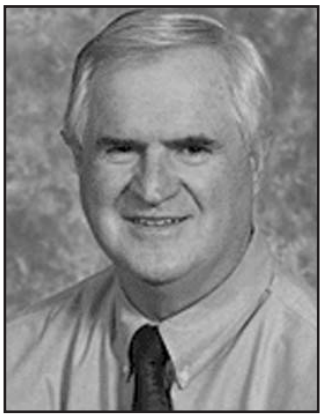
Peter Friedman, Chair

Council accepted the report of the Awards Committee.

Council approved an increase in the Postdoctoral Fellowship (Physiological Genomics) award. The funding will be indexed to the NIH postdoctoral stipend level.

Council approved changing the deadlines for the Research Career and Teaching Career Enhancement Awards to April 15 and September 15.

Career Opportunities in Physiology Committee



Careers Symposium

This annual EB Careers session is intended to address the specific objective in the 2000 APS Strategic Plan, "to promote interest in and understanding of careers in the physiological sciences" and the related action item, "to provide information on career options and training in professional skills for both research and teaching via meetings and electronic communications. In recent years, the Careers session focused on the diversity of career opportunities in physiology, particularly those in non-tradi-

tional areas. For the 2004 session, the Committee chose to compliment the international focus of the IUPS meeting by focusing the Careers Symposium on "International Collaboration: Science Knows No Boundaries." The symposium highlighted how to have a successful research experience overseas and in the US, how to do both teaching and research overseas and in the US, international research cooperation, and international opportunities in biomedical research training. The workshop focus and information highlighted the skills development endorsed by the APS and ACDP in the List of Professional Skills for Physiologists and Trainees.

Over a number of years, the Committee has established *1*) strong session attendance by students at the undergraduate, graduate, and postdoctoral levels; and *2*) positive feedback from attendees as appropriate indicators of success for this activity. The 2005 session was not as well attended this year as in past years. Participation in the symposium was primarily by graduate students, but also significant numbers of postdoctoral fellows and undergraduate students. Participant feedback indicates that the sessions have been generally well received. The 2005 program received an overall rating of 4.7 on a 5-point scale (5 = "Very Useful" and 1 = "Not Useful"), and the individual speakers received ratings between 4.2 and 4.6 on the same 5-point scale.

The plan for the 2006 session is currently being developed. The Committee decided to complement the theme selected by the Trainee Advisory Committee (TAC) for its first symposium, "Transitioning from Post Doc to Career." A topic will be developed in conjunction with the representatives from the TAC.

APS Summer Undergraduate Research Fellowship Program

This program was designed to help achieve one element of the 2000 APS Strategic Plan Awards and Grants Plan, "to attract the next generation of physiologists and foster their early career development." This program continues to be very successful. For the sixth year of funding, 42 applications were received, an increase of 150 percent from last year. The Committee saw this as a direct response to the increase in stipend level the Council approved last year. Although the quality of most of the applications was sufficient to merit funding, the Committee chose the 12 "best" for awards. Thus, 29 percent of the applications were funded, which did allow for high selectivity on our part. Over the six-year history of the program, we have received 263 applications for the 72 awards granted, yielding an overall "selectivity" ratio of about 1:4.

We will follow the same process and use essentially the same criteria for next year, except for some minor technical adjustments. The Committee members ranked the applications, as well as scored them, for the first time this year, and that worked very well, allowing us to reach our decision on the 12 awardees much faster during the conference call.

Short term impacts: Evidence suggests that the program is meeting the "short-term" goals of the program. This year, all 11 fellows (one fellow dropped out of the program during the summer) attended the IUPS/EB 2005 meeting, bringing the five-year total to 57 of 59 total awardees (97 percent) who attended EB, an APS national conference, or a comparable national meeting. At IUPS/EB 2005, nine of the fellows presented abstracts; in addition, four of the fellows had two posters each and a fifth fellow had both a poster and an oral presentation. The initial 59 awards (first five years) have fostered research experiences sufficiently successful to produce 55 abstracts at national meetings.

Long-term impacts: We have finished an online follow-up survey of the first three "classes" of Undergraduate Summer Research Fellows now to ascertain what impact the UGSRF experience had on their career choice to-date. The large majority of fellows (88 percent) continued working in research as undergraduates, either in their fellowship research mentor's lab (53 percent) or another lab (34 percent). Of those who continued research work, 75 percent received a stipend or pay for their work. Nearly 33 percent of the students responding had published a paper or report on their APS-funded research.

A vast majority (82 percent) of the responding students had graduated from their undergraduate institutions. Of these, 52 percent had applied to graduate school (PhD or Master's programs) and 46 percent had been accepted. A total of 59 percent had applied to a science-related professional school (e.g., MD, DVM, DDS) and of those 46 percent were accepted into a program. In total, 96 percent of those participating in our program that had already graduated from college have been accepted to graduate or professional school. At the time of the survey, most of the graduates (81 percent) were already enrolled in a graduate or professional degree program. Nearly one-third was enrolled in graduate programs leading to the doctoral or Master's degrees and an additional quarter were in dual-degree programs. The large majority of students in graduate school or in dual-degree programs were studying in physiology (50 percent) or neuroscience (38 percent).

Careers Poster

A new careers poster was designed in 2002 for annual distribution to all US and Canadian undergraduate colleges and life sciences departments. The poster prominently displays the URL for the APS Web site, which is how most undergraduates seek information. Posters must be redistributed every year, because their undergraduate departments clean off their bulletin boards each autumn. As a cost-saving measure, posters were printed in numbers sufficient to mail for two consecutive years (2003-2004).

Outcome Measures: While our overall goal in the annual distribution of the career poster is to attract more students to physiology careers, it would be difficult to measure its direct impact on that outcome. An interim objective is to use the poster to get students to come to the new APS Careers Web to explore physiology career options further. Therefore, the Careers Committee is monitoring the web usage statistics for the Careers Web to determine increased usage, especially following the posting of the careers posters at undergraduate life sciences departments in the fall.

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Outreach PowerPoint Presentation Package

This program was designed to help achieve four objectives in the 2000 APS Strategic Plan. First, in the Awards and Grants Plan section, the objective is "to attract the next generation of physiologists and foster their early career development." In the Education section, the objective is "to promote interest in and understanding of careers in the physiological sciences." Finally, in the Advocacy and Public Affairs, the Plan includes objectives "to educate the public about the central role of physiology in health and disease" and "to increased opportunities for participation by APS members in public education, in advocacy for research funding, and in support of animal research.

The Committee made significant progress this year on its plan to provide downloadable PowerPoint slides for outreach presentations to middle school, high school, and undergraduate students. The current concept is to assemble a wide variety of graphic, pictorial and word slides that illustrate the nature of physiology and the diversity of career opportunities in physiology. The individual "slides" will be appropriate for different age groups, so that APS members could pick and choose a selection of slides appropriate for their individual use. The package will include two major sections—a section on career opportunities in physiology, and a section on "physiology in action." The latter section will consist of modules organized around a physiological topic or disease. Each section will include some slides on background material for the topic and additional slides showing how a physiological study has contributed to our understanding on some specific issue related to that topic.

Five different versions of the PowerPoints are in preparation for use with *1*) elementary school, *2*) middle, *3*) high school, *4*) lower undergraduate; and *5*) upper undergraduate students. These will be uploaded for use by the APS membership on the web site. Draft versions of the remaining three presentations are currently being reviewed for appropriateness of content and language for each age group by Committee members. In addition, teachers who have participated in the APS-Baylor College of Medicine My Health, My World elementary science program will review materials for elementary students while former APS Summer Research Teachers (Frontiers in Physiology program) will review materials for middle and high school students. The Committee plans to have those final versions ready for Council approval this fall.

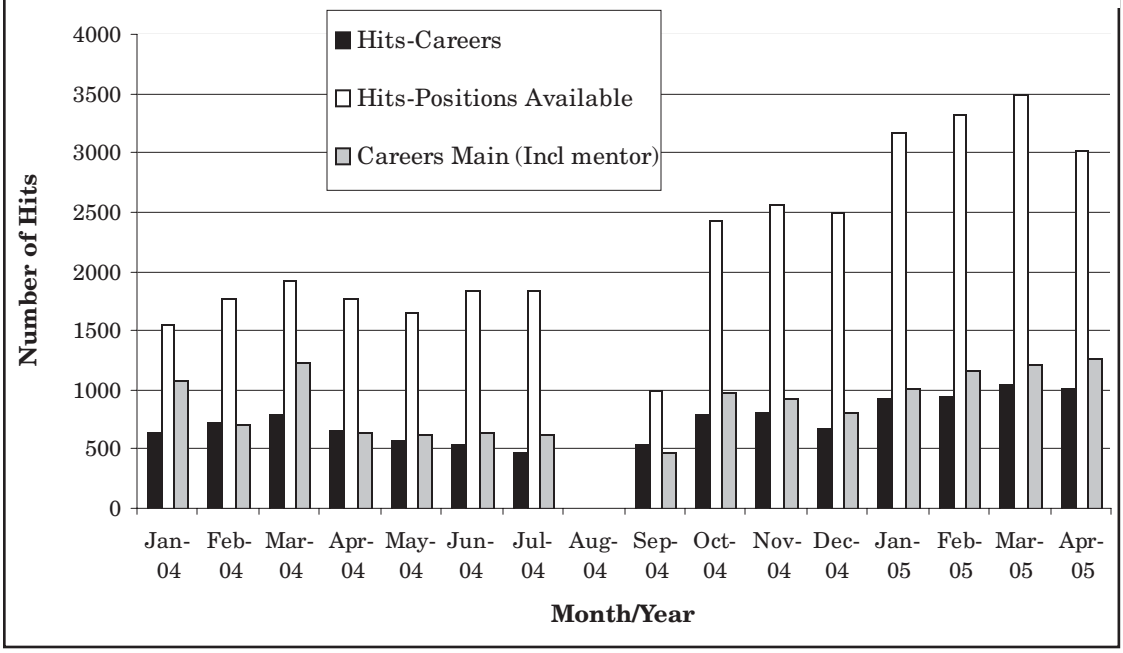
APS Careers Web Site

As noted earlier, the 2000 APS Strategic Plan includes an Education Objective "to promote interest in and understanding of careers in the physiological sciences" and an Awards and Grants Objective "to attract the next generation of physiologists and foster their early career development." The action item associated with the Education objective was to "provide information on career options and training in professional skills for both research and teaching via meetings and electronic communications."

Toward that goal, the Careers Committee developed a new APS Careers Web site in 2002. This website provides extensive resources for two major purposes: *1*) to assist students and new and experienced physiologists in the development of their careers; and *2*) to help the general public gain a better understanding of the work that physiologists do. The site includes separate sections and resources for elementary, middle/high school, undergraduate, graduate/professional, postdoctoral, new investigators, established investigators, and the general public. Within each section, the user finds resource categories customized to their needs and the specific resources (such as biographies, hands-on experiments, career resources, etc.) are written at the appropriate educational level.

In the past year, over 50 new resources (or links to new resources) have been added to the Careers web site. These include new information at all the levels, but primarily undergraduate, graduate/professional, postdoctoral, and new investigator levels.

Figure 1: 2004-2005 Career Web Site Statistics



Outcome Measures: The website launched in March 2003. While it was expected that use would have increased significantly this past fall when the new physiology careers posters are displayed at colleges and universities around the nation, this increase was

not evident. New efforts at advertising are being planned to promote the web site to students and physiologists at all levels. This fall, ads for the Careers web site were included among the APS Positions Available ads. This did lead to a substantial increase in the number of hits to the site. The ads will be changed every 6-8 weeks to maintain interest.

Fall Committee Meeting

Prior to 2001, the Career Opportunities in Physiology Committee held a single one-to-two-hour meeting annually during EB. At that time, the committee's major activities consisted of: *1*) organizing an annual Careers Symposium at EB; and *2*) developing and distributing a career poster to undergraduate biology departments.

In 2001, the Committee, with support from Council, launched the new Undergraduate Summer Research Fellowship (UGSRF) program and held the first of three two-day fall meetings (2001-2003). As a result of those meetings, the Committee has, in four years, completed the following projects:

continued organizing the annual Careers Symposium at EB and began coordinating the Careers Symposium with both the Women in Physiology Committee Mentoring workshop (2004) and the Trainee Advisory Committee workshop (2005) and focusing the Careers Symposium on skills listed in the APS-ACDP Listing of Professional Skills;

developed and distributed a new career poster for undergraduate biology departments, highlighting the new APS Career Web;

developed a Careers Web that includes more than 700 web pages and nearly 5,000 links to external web resources for physiology and scientific career development;

developed and disseminated more than 15,000 copies of a new career brochure designed to stimulate pre-college students' understanding of and interest in physiology careers. This brochure replaced the previous version, an expensive and outdated brochure developed more than 10 years ago that was distributed in only limited quantities due to cost. The new brochure costs less than a sixth of the cost of the old brochure and directs students to the new APS Career Web for more information;

launched and expanded the new UGSRF program, including conducting both formative and summative evaluations of impacts in the first three years of the program;

developed PowerPoint presentations on careers in physiology and physiology research topics for talks to K-12 and undergraduate students; and

participated in the development of the APS/ACDP Listing of Professional Skills.

At a time when careers in science are becoming more diverse and when career issues are critical, not only for the newly minted scientist but for mid- and late-career scientists as well, it is important for the APS to have a committee proactively working to support the career development of the physiology community. The fall committee meeting has allowed this committee to complete important tasks-such as the Career Web development-quickly and effectively. In the coming years, the committee anticipates:

planning an international symposium for EB 2006;

completing and disseminating the PowerPoint presentations on careers in physiology and physiology research topics for talks to K-12 and undergraduate students;

developing a new career poster for distribution to undergraduate departments;

overseeing the annual survey of doctoral recipients in physiology, conducted by the Education Office, including preparation of a five-year report on the survey results; and

continuing to improve and evaluate the Undergraduate Summer Research Fellowships program.

APS Staff

Over the past several years, the Career Committee's activities have been expanded, with the various projects going well beyond just putting together a session for the EB meeting. The Committee would like to acknowledge the continued support and assistance that has been required and received during the past year from Marsha Matyas (APS Director of Education Programs), Melinda Lowy (Higher Education Projects Coordinator), and other Education Office staff, as well as Martin Frank (Executive Director).

William Galey, Chair

Council accepted the report of the Career Opportunities in Physiology Committee.

Council approved the Careers in Physiology sponsored symposium at EB 2006.

Council approved the two undergraduate PowerPoint slide packages for dissemination via the APS website.

Council approved the necessary funding to support a meeting of the Career Opportunities Committee in Bethesda in fall 2006.

Committee on Committees

The Committee on Committees is composed of representatives elected by the Steering Committees of each of the 12 APS sections, as well as two Councillors. Its primary duty is to nominate individuals to serve on other APS standing committees, as well as to outside bodies where the APS is represented.

Process: The Committee on Committees (COC) continued with the new nomination process that had been instituted in 2003. The Committee members remain dedicated to the concept that their role is two-fold-to identify and promote members of their section who might serve on committees, but then to set aside section affiliations to work with the committee as a whole to nominate the best-qualified individuals to serve the society, keeping in mind the desire to promote diversity and the

involvement of younger members in the committee structure. Two sources of information are available to the committee in discharging this responsibility. First, the two-page Candidate Information form, which those interested in committee service can complete as a self-nomination, includes information about prior activities relevant to the committee on which the individual wishes to serve, a statement of interest, information about prior APS service, and citations to two recent publications, as well as a statement of academic interests. This is then supplemented by the one-page Endorsement Form, which is used by someone who knows the candidate, to comment on the ability of that individual to carry out committee responsibilities. Only one Endorsement form is accepted per nominee. Candidates can secure their own endorser, or submit their information without an endorsement. In this latter case, the primary section with which the interested party is affiliated is asked to provide an endorsement from among their leadership or membership. This task falls primarily to the sectional representative to the COC, who is an excellent resource to those interested in serving the Society and/or seeking information as to the charge of a given committee. Forms and submission is electronic, thus facilitating the application process. Both Candidate Information and Endorsement forms are available on the APS website, as well as links to the "job descriptions" for each of the society's standing committees. This year the link to the nomination form was moved to the APS home-page under a section for deadlines in an effort to bring visibility to the nomination process. Each Section Chair and Section Representative to the COC was contacted by phone to assure that the nomination process was understood and to seek input regarding suitable nominees. Then each was emailed copies of the nomination and endorsement forms to assure their access to the materials. No nominees are removed from consideration prior to the Committee's face-to-face meeting, thus providing the broadest pool of candidates from which to choose.

Results: The COC remains pleased with the new system which has seen a 39 percent increase in nominations overall in 2005 from 2004 and an 8 percent increase in nominations of members less than 45 years old. Nominations are distributed among sections with two sections failing to nominate any candidates in 2005 (Comparative and Respiration). One nomination from the Respiration Section was considered to serve on a committee for which there were no nominations. The COC remains committed to identifying candidates interested in serving the Society. At its meeting at the IUPS Congress/EB 2005, the COC worked to identify those most qualified to serve, setting aside any parochial sectional loyalties. However, when section representation is reviewed across all APS standing committees, all sections have at least one representative on at least one committee. Disparity in section representation results, in part, from the relative size of particular sections and, thus, the size of pool from which to nominate qualified individuals who are willing to serve. Section representatives expressed concern that with the new nomination process there was no mechanism to track section members that self-nominated and who obtained endorsements from persons outside their section (i.e., department chairs). This concern will be addressed by having names of nominees automatically forwarded to the COC section representative as they are received.

Based on the process described above and the Committee's deliberations at the Experimental Biology meeting, the Committee on Committees recommended individuals to fill vacancies on the following APS standing committees:

Committee	Number of Positions
Animal Care and Exp.	3
Awards	6
Career Opportunities in Physiology	2
Communications	3
Ray G. Daggs	1
Education	6
Finance Recommendation for Chair and replacement candidate	
International Physiology	2
Long-Range Planning	3
Membership	3
Perkins Memorial Fellowship	0
Porter Physiology Development	2
Public Affairs	3 plus chair
Publications	2
Senior Physiologist	2
Women in Physiology	4
AAAS	0
AAMC	0
FASEB Research Conference Advisory	1
US National Com. Biomechanics	1
TOTAL	45

The COC charge, as discussed above, is to identify the best individuals to fill committee vacancies, regardless of sectional affiliation. However, all other things being equal, the committee seeks to instill diversity in the committee structure on the basis of section of membership, geography, gender and seniority. Thus, the APS members nominated to fill vacancies had the following sectional affiliations:

Cardiovascular Section	12
Cell & Molecular Physiology Section	6
Central Nervous System Section	4
Comparative Physiology Section	0
Endocrinology & Metabolism Section	3
Environmental & Exercise Physiology Section	2
Gastrointestinal & Liver Physiology Section	1
Neural Control & Autonomic Regulation Section	2
Renal Section	2
Respiration Section	1
Teaching of Physiology Section	2
Water & Electrolyte Homeostasis Section	7
No section selected	3

For those members nominated, excluding alternate positions, 11 were less than 45 years of age, an increase of two

Table1: Committee Nominations by Section.

Section	Year 2004	Year 2005
Cardiovascular (A)	10	30
Cell (B)	2	8
Central Nervous System (J)	4	4
Comparative (C)	0	0
Endocrine (D)	1	4
Environmental (E)	13	7
GI (G)	1	1
NCAR (K)	7	2
Renal (L)	6	5
Respiration (M)	1	1
Teaching (N)	2	2
Water and Electrolyte (O)	4	7
Total	51	71

over 2004. For women, 15 (excluding alternate position nominations) were nominated from a pool of 19 women candidates. Women represent 39 percent of the total nominations including alternate candidates from 2004 but 26 percent of total new candidates for 2005. While the number and percentage of women nominated for committees may appear to be representative of women in the Society (28 percent which declare a gender-identity as female), it should be emphasized that new nominations for women on committees are disproportionately distributed (about 50 percent) to two committees, i.e., Education (4) and Women in Physiology (3).

We hope that many 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 (with or without an accompanying endorsement form) by January 14, 2006, although earlier submissions are welcome. Applications received without an endorsement will be forwarded to the section of primary affiliation for support. Nominations are then reviewed by chairs of committees on which there are vacancies, and by the Committee on Committees as a whole. At its meeting at Experimental Biology, the Committee on Committees develops its recommendations for each committee vacancy, along with alternates, and submits this for approval by Council at its July meeting. Approved nominees begin their term of appointment the following January.

Table 2. Total Committee Composition by Section.

Section	Year 2005
Cardiovascular (A)	21
Cell (B)	16
Central Nervous System (J)	6
Comparative (C)	3
Endocrine (D)	8
Environmental (E)	19
GI (G)	5
NCAR (K)	8
Renal (L)	10
Respiration (M)	4
Teaching (N)	4
Water and Electrolyte (O)	9

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.

Virginia Miller, Chair

Council accepted the report of the Committee on Committees.

Council approved the slate of nominees for committee vacancies with minor exceptions.

Communications Committee

The APS Communications Committee had a productive year towards its mission of promoting the physiological sciences. Through highlighting Society programs and member research, developing outreach materials about physiology for APS member use, and planning programming to help members communicate their science, the Communications Committee has continued to increase the visibility of our science to the general public.

During 2004-2005, the following members served on the Committee: Chair, Andrea Gwosdow (until December 2004); Hannah Carey, who assumed the chair position in January 2005; Gregory Fink, who rotated off the committee in December 2004; Judith Neubauer; Gary Sieck and Michael Romero. Stephen Dodd and Francis Belloni began terms of service in January 2005. Ex-Officio members who have participated in Committee activities over the past year include William Tallman (Public Affairs), Margaret Reich (Publications Director), Alice Ra'anan (Public Affairs Officer) and Virginia Miller (APS Council Liaison). Chairs of the Joint Program Committee and the Awards Committee are also ex-officio on the Committee. The Communications Committee receives outstanding staff support from Stacy Brooks (APS Communications Specialist) and Mayer Resnick (APS Communications Officer). The in-house APS communications team is comprised of Martin Frank, Marsha Matyas, Reich, Ra'anan, Linda Allen, Brooks and Resnick.

The Communications effort of the APS is accomplished by two main groups:

APS Communications Committee: The committee's responsibility is to initiate programs that empower individual APS members to promote physiology and APS activities; to develop materials to assist members in communicating their work to the public and the media; to seek opportunities to promote physiology to new audiences; and

to oversee the APS-AAAS Mass Media Science and Engineering Fellowship.

APS Communications Office: The Communications Office develops press releases based on APS journal articles and APS conferences; alerts local media outlets about APS member accomplishments including the APS awards program; monitors "clips" that track media pickup of APS news; develops and maintains the Press Room on the APS website; provides support in development and execution of Committee initiatives; and supports programs of other APS departments.

Communications Committee Activities in 2004-2005

This year, the Communications Committee met once via conference call, as well as at IUPS and through frequent listserv discussions. The Committee worked to develop programs intended to: *1*) empower APS members to serve as ambassadors for physiology and the APS; and *2*) assist them in communicating their work to the public and the media. To this end, the committee offered its third symposium at IUPS 2005, and is currently developing a symposium for EB 2006 addressing grass roots outreach. These are outlined briefly below.

Communications Symposium at IUPS 2005: "Developing and Implementing a Communications Strategy: The Basics for the Basic Scientist." This symposium provided an overview of the key elements required to translate a basic science message into a strategy for communicating science to the public. Four presentations focused on different aspects of developing a basic science story into one that is "user-friendly" in terms of the general public. The symposium concluded with a brief question and answer session. The panel included a print journalist (Rosie Mestel, *Los Angeles Times*); the executive director of a state biomedical research organization (Gale Davy, Wisconsin Association for Biomedical Research Education), an institutional public relations Officer (Robert Nellis, Mayo Clinic Communications), and a Communications Officer from a professional scientific society (Mayer Resnick, APS). They discussed how to make research attractive to the news media, and how to best communicate with the general public. Further information on the presentations can be found at http://www.the-aps.org/press/conference/eb05/05writeup.htm. The Communications symposium attracted a variety of attendees, including graduate students, junior and senior faculty, emeritus scientists. Approximately 50 people attended.

Proposed Communications Symposium at EB 2006: "Ground-floor Communications: Creating a buzz about Science Through Community and Constituency Outreach." The goal of this symposium, which will be sponsored jointly by the Communications and Public Affairs Committees, is to demonstrate how scientists can work as champions for research and increase community awareness of science. As a member of a community, the researcher has a unique opportunity to be a resource about research science for reporters, politicians, and the average citizen. The intent is to cover three areas of community outreach: outreach to local media, relationship development with community political leaders, and "direct-to-neighbor" communications.

Communications Resource Modules: To facilitate communicating physiology to the public, the Communications Committee has begun a proactive outreach program developing topic-based resource modules on a variety of physiological issues. These units include new research papers linked primarily from APS journals, statistical data and a list of APS members who can serve as expert spokespersons. The information can be modified to a number of uses including story ideas for the media and general audience resource documents. The modules are posted on the APS Press Room site (on the "Disease/Condition Hot Research" page) and will be on the Public Information Website currently in development, and will be available at APS booths at conferences and meetings. Thus far, the Committee has developed modules for obesity, comparative physiology, and the use of laboratory animals. Other modules in development or planned include environmental physiology, hypoxia, aging, hormones, sleep, exercise and heart failure.

"Guide for Members." Materials for APS member outreach resources in the Press Room is housed under the "Guide for Members" page. This page is being expanded to contain more resources for APS members to use in their individual efforts to promote physiology. It provides tips for media interviews, summaries of past Communications Symposia that assist members in promoting physiology, information about the APS Communications Office, and other helpful information. A Resource Module Template will soon be available to encourage members to propose new modules for development.

Timeline of Physiology: The APS Timeline of Physiology underwent its first printing before EB 2004. It remains one of the most popular items at the APS booth and has been received enthusiastically by APS members. It is now available in HTML format on the APS website and the poster is available for purchase in the APS Store. A second printing of the Timeline will occur in summer 2005. The Committee has invited APS Sections to create complimentary Timelines that focus on specific sub disciplines, in effect creating living documents that chronicle the major advances in a particular field within the physiological sciences. The APS Website will be the home base for these documents, that will be designated, for example the "Timeline of Neurophysiology," or the "Timeline of Gastrointestinal Physiology." These additional Timelines will be used to promote particular areas of physiological research to the public, the media, in educators and students, and others in the scientific community. This is a great opportunity for APS members who have an interest in the history of their particular discipline to develop an exciting and informative vehicle that highlights past, present, and future advances in their field. APS Sections are also urged to keep the Communications Office apprised of upcoming anniversaries or other events that mark major milestones in their fields that might be newsworthy. For example, the APS Communications Office developed a press release in fall of 2004 to mark the 100th anniversary of the awarding of the Nobel Prize to Ivan Pavlov, the first physiologist to receive an award of this magnitude.

Public Information Website: In Spring of 2004, the Communications Committee recommended the develop-

ment of a separate, but linked, public website that would be a more user-friendly and informative site than the main Society website. This site is intended to be an interface with the public and would supplement the Press Room site to be an attractive and informative resource for the public beyond the news media. The Communications Office Staff, under the direction of Stacy Brooks, began work on this project in fall of 2004, with input from the Committee. Work is now in progress on the APS Public Information Website, which will be a collection of information and resources, most of which is already available in a number of different areas on the website, about educational activities of our members and the research published in APS journals.

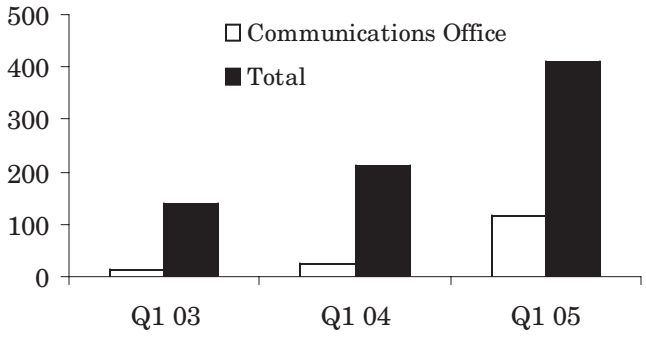
APS-AAAS Mass Media Science and Engineering Fellowship: The Communications Committee oversees the selection of an APS-sponsored AAAS Mass Media Fellow each year. This program encourages an exchange between science and journalism. In 2005, the Committee evaluated 18 fellowship applications and recommended funding for Kirsten Sanford, who is a PhD candidate in Molecular, Cellular & Integrative Physiology at UC-Davis. Sanford will spend 10 weeks at WNBC in New York.

Communications Office Activities in 2004-2005

Journal Release Program. Over the past year, the Communications Office produced 20 research releases from seven APS journals. In March, the Communications staff met with APS journal Editors-in-Chief and the in-house copy editing staff to discuss how these groups could increase their involvement in identifying hot topic research. Since this outreach, contributions of newsworthy research to the Communications Office have increased substantially.

Conference Releases. The Communications Office performed media relations (including press release development) for three APS conferences in 2004 and 2005: "Immunological and Pathophysiological Mechanisms in Inflammatory Bowel Diseases" conference; "The Integrative Biology of Exercise Intersociety" meeting; and "IUPS 2005." A total of 30 press releases were written for these conferences. Of these conferences, IUPS received the most media attention. Fifteen press releases produced approximately 110 clips through early May. To further increase conference publicity, the Communications Office will be enlisting the help of conference organizers in developing complementary resource modules that feature research from APS journals.

Quarter 1 Comparison 2003-2005.



Society Releases. The APS Communications Office publicizes most of its award and fellowship winners along with other Society news in an effort to increase recognition of excellence in research and achievement in physiology. Twenty-five releases were written and locally distributed about APS programs and Society and member news.

Measuring Results. APS subscribes to a clipping service that searches newspapers, magazines, the internet and other media outlets for articles that mention APS or its journals or conferences. The clips received help in tracking the source of APS media coverage, be it from the Communications Office, promotional efforts or from another source. The number of clips that each story receives also helps us gauge trends in media topics of interest.

The graph shows an upward trend in clips that came from both Communications Office press releases and other sources, in three consecutive first quarters. In Q1 2005, clips attributed to Communications Office press releases (119) equaled 29 percent of the total clips (419) that the Society received. This number increased from 11 percent (25/212) in 2004 and 10 percent (15/140) in 2003. Part of the increase in clips from other (non-Communications Office) sources is due to APS' leadership in the "public access" forum and the "Biotech Week" family of newsletters scouring APS Articles in PresS for abstracts for their audience.

Some of the media outlets that carried stories about APS and physiology include the *New York Times, Reuter's, Cincinnati Post,* WebMD, *The Scientist,* CBS News.com, and the *Austin-American Statesman*.

APS Press Room. The Communications Office has reorganized some of the elements of the Press Room webpage to make it more concise and user-friendly. (http://www.the-aps.org/press/) Changes include a new "Resources" section to house the resource modules and other outreach materials currently in development by the Communications Committee; a reorganized "Press Releases" area that is more user-friendly for journalists and lay public alike; and "Journalist Information" area where reporters can join the mailing list or register to attend an APS conference.

Looking Ahead

In 2005-06, the Committee will continue to strategize for new outreach opportunities to enhance the visibility of physiology and the APS to the public and larger scientific community. To that end, the committee is eager to hear from individual APS members about their ideas on how to promote our exciting discipline and how they would like to contribute personally to the Communications effort.

Hannah Carey, Chair

Council accepted the report of the Communications Committee.

Council authorized financial support needed for design of the APS Public Information Website.

Education Committee Report

The activities of the Education Committee are supported by a combination of APS funds and external grant funds. Grant activities are discussed in the context of specific activities in the following report.

Graduate Student Education

Listing of Professional Skills: The "APS/ACDP List of Professional Skills for Physiologists and Trainees" is available at the APS and ACDP websites as a downloadable pdf file. Last year the Education and Career Opportunities in Physiology Committees agreed that the Careers Committee would assume oversight for the Skills document. A subgroup of the Careers Committee is working to make the list available as an html document with extensive links to some of the nearly 5,000 career resources available at the APS Career Web.

Projects Under Development

Web-based Professional Skills Courses: Last year, the Committee reported that the APS had submitted a proposal to NIGMS after meeting with Clifton Poodry, director of the Minority Opportunities in Research (MORE) division of NIGMS. APS received notification in January that the grant had been funded for the full timeline and amount. The grant will allow APS to develop two interactive, online courses. Although direct oversight of the project will reside with the Education Committee, the Careers in Physiology, Porter Physiology Development, Trainee Advisory, and Women in Physiology Committees will be actively involved in the project.

Medical Physiology Education

APS Archive of Teaching Resources: In its first full year of operation, the Archive has grown in both size and diversity of resources. About 80 percent of the Archives' 750+ resources are appropriate for use at the graduate and professional school levels. These resources include not only fully catalogued and searchable *Advances in Physiology Education* articles (n=218) but also graphics, simulations, webs, PowerPoint presentations, laboratory activities, and other resources contributed by individual physiology educators. In addition, this year the *Physiology in Medicine* articles and the *APS Classic Papers* were added to the Archive. Additional submissions to the Archive are being sought via exhibits, workshops, poster presentations, email listservs, and one-on-one contact. Since last year's Education Committee report, the Archive has been promoted by staff or Education Committee members via the exhibits and workshops listed in the table below. In addition, Archive information and materials soliciting contributions is promoted at all scientific meeting exhibits attended by the APS Marketing Department.

In January 2003, the Education Office began tracking the Archives usage, as indicated by web statistics and by user registration. Total number of "hits," that is, pages accessed at the Archive website ranged from more than 48,000 in October 2004 to nearly 82,000 in January of 2004. Although this is only the second year these data have been collected, the usage of the Archive seems to be aligned with other digital libraries (such as the American Society for Microbiology's *MicrobeLibrary*) which experience heavier usage at the beginning and end of each semester, when faculty are preparing materials for the next course. The Archive usage stats will continue to be monitored by APS staff.

A new set of features called "My Archive" was added to the APS Archive of Teaching Resources in Spring 2005. These features allow the user to save and name personal search parameters and save items found from searches into personal folders. In addition, users can Email items of interest found from searches to their colleagues. Users can be notified when new resources are added into the APS Archive, including specific notifications when new materials are added that match their personal search parameters.

In terms of external funding, the NSF grant that was partially supporting the Archive ended as of March 31, 2005. That grant was a subcontract from AAAS as part of the BiosciEd Net (BEN) partnership. The BEN partnership continues to grow and now includes 19 additional partners. Several more organizations have expressed an interest in joining BEN, including two groups that may become partners with the APS Archive.

In 2004, the APS submitted another proposal to NSDL, in conjunction with the AAAS, to add the Society for Developmental Biology as a partner to the APS Archive and to develop outreach materials to help undergraduate life science faculty use digital library resources to improve teaching and learning in their courses. This proposal did not receive funding and was re-written and resubmitted in April 2005 for consideration. The AAAS and APS are also collaborating to develop other funding sources, including the Biology Directorate at NSF and several private foundations. The external funds are primarily directed at further enhancements to Archive services and resources.

Meetings attended by APS Education Staff.

Date	Location	Meeting
June 2004	Calgary, Canada	HAPS Annual Meeting: exhibit and four workshops
July 2004	New Orleans, LA	IAMSE Annual Meeting: exhibit
November 2004	Chicago, IL	NABT Annual Meeting: exhibit
March 2005	Washington, DC	AAAS Annual Meeting: workshop
April 2005	Running Springs, CA	IUPS Teaching Satellite: Track session; poster
May 2005	St. Louis, MO	HAPS Annual Meeting: exhibit and workshop

Projects Under Development

Use of Animals in Medical Education: At the direction of Council, a Working Group on the Use of Animals in Medical Education drafted a policy statement that describes how the use of laboratories, specifically including animal laboratories, provides a unique and effective educational experience for physiology education at all levels. This policy statement was accepted by Council at its fall 2004 meeting. Alice Ra'anan, APS Public Affairs Officer, developed an overview of the significant body of educational research on animal use; this article has been submitted to *Advances in Physiology Education* for review. Finally, Rob Carroll is developing a rationale statement to support the policy statement. Both the policy statement and rationale will be released this summer.

Undergraduate Physiology Education

APS Initiative to Increase Undergraduate Programs in Physiology: The APS seeks to increase the pool of applicants interested in pursuing graduate training in physiology. Toward that end the Society has already established a summer research program in physiology and undergraduate research awards (the David Bruce awards), since undergraduate research experiences in a field are a proven strategy for increasing student interest in related graduate studies and careers. However, the program is limited in the number of students it can reach. Therefore, the APS is planning additional strategies to increase exposure of undergraduate students to physiology. These may include but not be limited to: *1*) increasing the number of undergraduate institutions that offer physiology as a major, focus, or minor/concentration; and *2*) developing methods and materials to facilitate partnerships between medical physiology departments and undergraduate life sciences/biology departments to add new physiology courses or enrich existing courses.

Toward this end, the Education Committee and ACDP have formed a working group to explore options and present possible activities to Council. The group outlined two initial areas where information needed to be gathered to inform activities planning.

Current Status of Physiology as an Undergraduate Major: The working group did not have a clear idea of the number and type of undergraduate physiology majors and concentrations that are currently available. Completed work: In 2005, the APS Education Office developed an interactive, searchable online database to replace the previous print version of the *List of Institutions Granting Degrees in Physiology*. This database has been populated by updated entries and will serve as a source of information on the number of institutions offering undergraduate degrees in physiology. To date, nearly 30 institutions have been added that offer undergraduate degrees in physiology.

Structure and Function of Undergraduate Physiology Instruction: There is very little information available on how undergraduate physiology instruction is structured (e.g., physiology versus A&P courses, lecture with/without lab, multi-semester courses, etc.). Also, we know little about how physiology instruction is distributed among departments and schools (e.g., biology/life sciences, nursing, allied health, etc.). Proposed Tasks: The Working Group would like to meet with representatives from diverse institutions that do/do not offer an undergraduate physiology major to: *1*) learn about models of current physiology instruction; *2*) identify successful models of undergraduate physiology majors and minors; *3*) learn about successful partnerships and collaborations between medical school departments and undergraduate departments; *4*) brainstorm new models for collaborations and partnerships; and *5*) identify possible models and support mechanisms for promoting increased physiology "presence" at undergraduate institutions (e.g., how to move from a course to a concentrate/minor, from a concentrate to a major, from a major to a degree).

David Bruce Awards: The Education Committee has completed its second round of David S. Bruce Awards for Excellence in Undergraduate Research. A total of 31 applications were received for this second year, up 63 percent from 19 received the first year. The Committee selected 13 finalists based on the abstract and a one-page letter submitted by the undergraduate students. The 13 finalists each made oral presentations with their posters to the judging team (four Education Committee members, one Career Opportunities in Physiology Committee member, and four external reviewers) during the IUPS/EB meeting, either at their scheduled poster time on Sunday or at an alternate time earlier that same day. From that group, four awardees were selected. The interviewers noted that all the finalists were very competitive and deserving of the award based on the quality of the work. Robert Carroll, Chair of the Education Committee, and APS President D. Neil Granger presented certificates to the nine finalists and certificates and $500 checks to the four awardees during an award presentation held during the APS Undergraduate Research Poster session. Based on the continued response to that special undergraduate poster session and more awareness of the award, the Committee is looking forward again to an increase in the number of applications for the 2006 David Bruce Award.

IUPS/EB Undergraduate Poster Session: All undergraduate students who were presenting posters as first authors were contacted and invited to present their posters at a special APS Undergraduate Poster Session held on Saturday afternoon. This time slot was selected because many of the undergraduates are not able to stay for the entire IUPS/EB meeting and often have to leave Sunday evening to return to classes. Of the 119 undergraduates invited to present at this special session, 87 (73 percent) responded positively plus an additional five students requested space after the late abstract deadline, for a total of 94 students. Almost 100 students put their posters up at the session held in the Convention Center along a main hallway outside of the meeting rooms. Refreshments were provided by APS. Approximately 200 APS members came to see the posters and talk with the students. Several students and research hosts commented how APS makes undergraduates feel like they are special to the Society. Overall, the new session was deemed very successful by all who participated (both students and members).

The Education Committee suggested having pins to give out to the student presenters as a reminder of APS spon-

sorship of the session. The Committee is requesting $1,500 for 1,000 pins, which will also be used to give to students whose posters are judged at the ISEF.

Archive of Teaching Resources: The Archive also focuses strongly on providing resources for undergraduate physiology education. About 60 percent of the Archives' 760+ resources are appropriate for use at the undergraduate level, and, as noted earlier, the 2005 APS-AAAS NDSL proposal includes a strong focus on undergraduate education. Additional submissions to the Archive are being sought via exhibits, workshops, poster presentations, email listservs, and one-on-one contact, as described earlier in this report.

Strengthening Relations with HAPS: The Committee members and APS Education staff continue their efforts to strengthen the relationship between the APS and the Human Anatomy and Physiology Society (HAPS), an association of physiology educators, primarily from community and four-year colleges. Toward that end, the APS exhibits and conducts workshops at the HAPS annual meeting, as well as sponsoring a keynote research update speaker. At the May 2005 HAPS meeting in St. Louis, MO, Paul Quinton, Professor, Departments of Biomedical Sciences, University of California, San Diego delivered an Update Seminar entitled, "Cystic Fibrosis: Romantic Solutions and Divorce." Quinton was selected by the Education Committee to make this APS-sponsored presentation. In addition, APS member and HAPS liaison, Dee Silverthorn, gave an annual report at the HAPS business meeting on joint APS-HAPS activities. APS staff member Melinda Lowy staffed the APS exhibit and presented the following workshop:

> **My Archive: You Asked for It, You Got It:** *Explore the brand new features of the APS (and HAPS) Archive of Teaching Resources. Learn how you can save your search parameters for different searches you might need to run over the school year. See how to save items you find in the Archive into a personal folder for a specific class. Find out how you can be notified when new materials that match your search parameters are accepted into the Archive. All of these new features have just recently been implemented for the APS Archive.*

K-12 Science Education

APS Summer Research Program for Teachers: The Summer Research Program continues to work with teachers from across the nation: *1*) engaging them in biomedical research; *2*) building connections at the local level between teachers, students, and researchers; *3*) improving the teaching methods and curricular materials used by the teachers; and *4*) deepening the understanding of both teachers and students of how biomedical research is done and how animals are used in research.

The program, now in its 15th year, has funding from three NIH institutes (NCRR, NIGMS, and NIDDK) and NSF, in addition to the support provided by the APS. The core program funding is provided by the NCRR Science Education Partnership Awards (SEPA) program. NIDDK funding provides support for additional fellowships for minority teachers or teachers of minority students while NIGMS funding provides support for teachers of Native American students. This is the final year of NIGMS funding. APS funding provides partial stipend support and travel to Experimental Biology for the NCRR-supported teachers. In addition, an APS member, George Tempel, at the Medical University of South Carolina (MUSC), coordinates the participation of two to four teachers annually in the program. These teachers are supported by a grant to MUSC from the National Science Foundation. This diversity of funding sources both serves as an indicator of the success of the program and contributes to its longevity. In 2005, the program is supporting 20 teachers from 14 states in an intensive, yearlong professional development program.

Member support for this program continues to be strong, with many members volunteering to host teachers in their laboratories, providing the needed lab materials and supplies for each teacher's research and, frequently, providing part of the stipend and travel costs for the teacher. For example, a third (n=8) of the APS members who hosted 25 teachers in their labs last summer contributed not only the lab materials and supplies that the teachers needed, but also contributed an average of $1,588 ($12,700 total) toward their stipends and/or IUPS travel. In 2005, nearly 55 percent (n=11) of the members who will host 20 teachers in their labs this summer will contribute an average of about $1,270 ($14,000 total) toward stipends and/or EB travel.

In 2003, the APS received funding from the NCRR for three additional years.

Evaluation: Horizon Research, Inc., continues to serve as the external evaluator for the Summer Research program. The program has been extensively evaluated over its long history. It consistently has strong positive effects on: the teaching methods used by teachers (that is, selecting more student-centered methods that build research and investigative skills), the networks built between and among teachers and researchers, and teacher perceptions of the value of biomedical research and how animals are used in research. The following quote from one of the external reports summarizes the program's impact on Research Teachers (RTs):

> *As a result of participating in the program, middle and high school [teachers] report a marked increase in both their confidence and enthusiasm for reform-oriented science teaching and their ability to grasp modern physiology science. Becoming more connected to the scientific realm and having the chance to enhance their content and pedagogical knowledge and skills affords [teachers] new avenues through which to enhance their science instruction. There have been concrete changes in their classroom practice, ranging from the addition of new content or infusion of new inquiry-based activities in their curriculum to the more effective use of a wider range of teaching techniques or an altered approach to how students are engaged in science* (Dotterer & Pasley, 2000, p. 40).

In the coming three years, the Frontiers program will continue to provide opportunities for teachers and researchers nationwide to participate in the program but, will include a strong focus on building local capacity for promoting excellence in science education. The evaluation plan during these years will focus on evaluating the devel-

opment and implementation of this local site model while continuing to monitor the quality and impact of the program on individual teachers.

EB Workshop for Teachers and Students: Due to programming restrictions for the IUPS 2005 meeting in San Diego, the Education Committee did not sponsor a workshop for area life science teachers and students. However, the Committee is planning to continue the program in 2006.

My Health, My World: Baylor College of Medicine and APS received funding from NIAID and NCRR in 2003 and 2004 to develop and field test middle school materials that *1*) increase understanding by middle school students, their teachers and their families of infectious diseases, the effects of alcohol on human physiology, biomedical research, healthy lifestyle choices, risk factors for disease and the relevance of science to everyday life; *2*) stimulate middle school students' interest and awareness of science and health careers; and *3*) promote the teaching and learning of science and health concepts through guided inquiry.

The APS' role in this project is to recruit field-test middle school teachers from our past Research Teachers, coordinate online training of these teachers, and summarize the field test results for our group. In 2004, the APS staff worked with Baylor College of Medicine staff on development and review of materials. In spring 2005, the "Science of Alcohol" unit is being field tested and reviewed by APS teachers from the Summer Research Program.

International Science and Engineering Fair (ISEF) Awards: The Intel ISEF brings together over 1,200 students from 41 nations to compete for scholarships, tuition grants, internships, scientific field trips and the grand prize: a trip to attend the Nobel Prize Ceremonies in Stockholm, Sweden. The 56th Annual International Science and Engineering Fair was held in Phoenix, AZ in May 2005. Special Awards were given by 93 scientific, professional, industrial, educational, and governmental organizations in the form of scholarships, tuition grants, summer internships, scientific field trips, and equipment grants. The APS participates as a Special Awards Sponsor for ISEF, recognizing outstanding high school research projects in the physiological sciences, including cellular physiology, animal physiology, and neurophysiology. Four students received cash awards ($1,000 First Prize, $500 Second, Third, Fourth Place), T-shirts, and a year's subscription to *Physiology* and *The Physiologist*. APS is one of only seven biomedical research organizations that give awards to students from among 63 organizations making special awards. The judging team was led by Nancy Kanagy, University of New Mexico, and included APS members Layla Al-Nakash and Michael Quinlan, as well as Cynthia Standley, all from the Department of Physiology at Midwestern University in Glendale.

Next year's Intel ISEF will be held in Indianapolis, IN, May 7–13, 2006. The Education Committee suggested having pins to give out to the high school students whose posters are judged as a reminder of APS sponsorship of awards in physiology.

Explorations in Biomedicine Teacher Leadership Summit and Outreach Workshops (March 12-14, 2005): Held at the American Physiological Society's headquarters in Bethesda, MD, and the American Association for the Advancement of Science offices in Washington DC, the three day summit included sessions on educational leadership, teacher training, online tools, education grants, and building regional networks. Awards were made to 18 teachers from all over the United States.

Participants also had the opportunity to meet with national science education leaders and Congressional representatives, as well as tour the new Smithsonian National Museum of the American Indian. Through the Summit training, these exceptional educators are better equipped to be resources not only for their students but also for their colleagues and their school districts and states. Many have already begun working in these roles and, for them, the Summit expanded and enhanced both their skills and their network of resources.

Eleven of the 18 teacher participants are from states and/or districts in which they work with Native American students. These teachers have participated in previous Explorations activities, including being an APS Summer Research Teacher, attending Explorations weekend retreats (workshops), and/or field testing new online materials at Project WISE. The other seven participants are exceptional teachers who have participated in our APS Summer Research Program and have already served as an APS mentor/instructor at the Summer Teaching Forum, a part of the Summer Research Program.

As part of the Teacher Leadership Summit, the APS offered the Summit Fellows an opportunity to apply for grant funds to be used to present APS teacher workshops in their local or regional area. The majority of participants have applied for these grants and the workshops will be held throughout summer and fall 2005 thereby increasing the APS' outreach into communities across the country.

Local Site Team Development: A significant focus of the Frontiers in Physiology program is the development and support of active Local Site Teams (LSTs). Local Site Teams combine the expertise and enthusiasm of physiologists and science teachers to provide effective training workshops for middle and high school science educators in their region.

To start, two Local Site Teams were established: *1*) Indiana University School of Medicine, Indianapolis, IN, led by APS member, C. Subah Packer; and *2*) University of Texas Health Science Center, San Antonio, TX, led by APS member Duane Proppe.

In February 2004 a planning meeting was held at APS headquarters for the Local Site Team leaders and a teacher from each team. Working with the APS staff and the external evaluators, the two teams outlined plans for recruiting Summer Research Teachers and Local Site Team members, as well as outreach activities. For the 2004 Professional Development Fellowship, the Indianapolis LST recruited two teachers and the San Antonio LST recruited four teachers. In addition to involving area teachers, each LST leader enlisted research colleagues to be part of the LST.

In January 2005, APS staff and invited workshop facilitators conducted a 1½ day training session for the Indianapolis LST on "It's a Matter of Taste," an APS online curriculum

unit and how to conduct workshops for area teachers. The San Antonio LST had to withdraw from the program due to commitments to their master's program. However, Barbara Goodman at the University of South Dakota School of Medicine has moved up the development schedule for her LST and will be participating in the program in 2005.

Refresher Course at IUPS/EB meeting: The Refresher Course on "Integrating Genomics into Physiology Courses: A New Paradigm or Just More Information?" at IUPS/EB 2005 was organized by Daniel Lemons. The session was less well attended than past years, attracting only about 100 attendees, although most stayed for the entire session. The low attendance was likely due to the fact that the EB meeting had not yet begun and many participants who would normally attend the Refresher Course had not yet arrived. The majority of those attending were faculty at medical schools or colleges/universities who are currently teaching physiology, as well as a few postdoctoral fellows and graduate students. Nearly three-quarters of those providing feedback indicated that genomics was not their primary area of specialization. As this is the target group for the Refresher Course, the Committee is pleased that the courses continue to draw the participants for whom they were designed. About half of the attendees completed a feedback form; ratings of the speakers were very positive and written comments were positive.

Refresher Course Workshop (Afternoon) at IUPS meeting: There was no afternoon session at the IUPS/EB 2005 meeting due to scheduling for this meeting. The Education Committee reviewed the history of the afternoon workshop and agreed that it has been less than successful. Several different formats have been tried, but none seem to work well. Therefore, the Committee agreed to discontinue holding the afternoon workshops in conjunction with the Refresher Course. The Committee did discuss the possibility that it may be more advantageous to hold a featured topic session on that afternoon in place of the pedagogy workshop.

Future Refresher Courses: For 2006, the Refresher Course will focus on gender differences in physiology. This proposal was submitted by Martha Blair and Meredith Hay.

Most of the APS activities related to the promotion of careers in physiology are developed and coordinated by the Careers in Physiology Committee, the Trainee Advisory Committee, the Women in Physiology Committee, and the Porter Physiology Development Committee. However, as part of its K-12 outreach efforts, the Education Committee includes a strong focus on the understanding of careers in physiology.

Online Outreach Center: As part of the new APS Career Web, the Education Office currently maintains an online K-12 outreach resource site for APS members planning outreach activities for K-12 classrooms. In addition, other K-12 activities (e.g., the Summer Research Program, EB Teacher/Student workshops, Explorations in Biomedicine program, My Health/My World program, the International Science and Engineering Fair awards, and the Local Outreach Team program) all have strong components for promoting physiology careers to K-12 students. The APS also provides career materials to thousands of teachers and students through mail requests, online requests, and exhibits at both annual scientific meetings and education meetings (National Association of Biology Teachers, Society for the Advancement of Chicanos and Native Americans in Science, Annual Biomedical Research Conference for Minority Students, and a large Washington, DC-based career fair, "Minorities in Science and Technology").

New Models for Local Outreach: As part of the new Frontiers in Physiology project, the Education Office is developing additional models and resources for local outreach to K-12 schools, teachers, and students. This will allow for an expansion and redesign of the current APS outreach website.

Physiology Awareness Week: Education Committee members Diane Munzenmaier, Nancy Kanagy, and Peter Farrell have developed a plan for pilot testing a proposed annual national event focusing on physiology awareness and understanding. The event, modeled after the Society for Neuroscience's successful "Brain Awareness Week," will encourage researchers to visit a local school or classroom and give an interactive demonstration about some area of physiology. The Committee believes that this interaction of physiologists with K-12 students is vital to increasing their understanding and appreciation of what physiology is and what physiologists do. The Committee's concept echoes Bruce Alberts' recent call for "hundreds of thousands of 'citizen scientists,' who devote at least part of each week to spreading an understanding of science, its methods, and its values to non-scientists."

The Committee will run a pilot program in early November 2005 using primarily the Education Committee members as presenters in order to determine the feasibility of such a program and to work out logistical issues before opening the program to the entire Society in Fall 2006. Committee members will share their experience at the fall meeting in mid-November. From there, the Committee will plan for a 2006 event and begin development of a website that will provide specific outreach and promotional resources and assist in matching of available researchers to interested schools in their communities.

The working title for the program is still being developed. The event will have a theme each year that the presenter can adhere to closely or decide to do something more related to his/her research interests. We will have grade level-specific, pre-tested "kits" that will be available to the presenters so that they will not need to spend time developing a presentation and determining the appropriate level required. For those wishing to create their own presentation, we will develop guidelines to ensure that the researchers are able reach and stimulate their audiences effectively. For this first pilot event, we will modify existing teaching modules previously developed by APS in collaboration with K-12 teachers. The program will also make extensive use of the pre-college career PowerPoint presentations currently being developed by the Careers in Physiology Committee.

Resource Web Site for Medical Physiology Course Directors: A joint APS/ACDP committee developed an outline for an online resource site for medical physiology course directors. The web site was designed and the structure is in place. This site will reside in the "Members Only" section of the APS web site. Resources will include information on faculty evaluation, course evaluation, curriculum issues and instructional options. A meeting for inter-

ested course directors was held at IUPS/EB to request materials to populate the site and meeting attendees have begun to submit materials and resource links to add to the website. Plans are to continue to identify web site content and populate the site over the 2005 summer and fall.

Medical Physiology Learning Objectives Project: As materials have been entered into the Archive this year, each resource that is appropriate for the medical school level has been catalogued according to the specific Medical Physiology Learning Objectives to which it relates. Therefore, Archive users can search by specific Learning Objectives.

The Medical Physiology Learning Objectives were published in 2000, with a planned periodic review by each APS section to update the objectives on a regular basis. As originally proposed, the renal section was the first to be reviewed and revised. In January 2005, a new revised version of the Medical Objectives was published and released on the web. The cardiovascular section is next and is currently being reviewed for revision. Gabriel Navar and Rob Carroll will use information gathered from the Archives bulletin board and solicit additional information to ensure that the objectives remain current and useful. In future years, other sections of the Medical Physiology Learning Objectives will be revised based on the process developed this year.

Summary and Conclusions

The Education Committee is meeting the objectives laid out in the 2000 Strategic Plan, with significant activities supporting each of the Plan's objectives. I would like to thank Council for their support. Our activities would be impossible without the expert leadership of Marsha Lakes Matyas and her staff in the APS Education Office. Many members of Council interact with the Higher Education Coordinator Melinda Lowy, as she directs programs related to undergraduate, graduate, and medical education. Kathleen Kelly manages the Education Committee outreach activities in the K-12 environment, which increase the vitality and perception of physiology. Brooke Bruthers coordinates all meetings, travel, and exhibits for all Education programs.

Robert Carroll, Chair

Council accepted the report of the Education Committee.

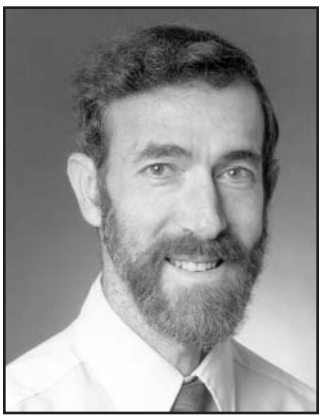
Council authorized $60,000 for summer research fellowships for high school and middle school science teachers for 2006.

Council authorized funding for pins to give to undergraduate students presenting physiology posters at EB and APS conferences, and to high school students presenting physiology posters at the International Science and Engineering Fair.

Council authorized funding for a meeting of the Undergraduate Initiative Working Group to explore and develop a set of models for undergraduate programs in physiology.

Council authorized funding for the pilot project and website for a national physiology awareness week.

Finance Committee Report



2004 Budget

The Society employs a consolidated operating budget to manage overall operations. The consolidated budget is comprised of the individual budgets for the various cost centers; these include Publications, Membership and Meetings, Education, Public Affairs, Communications, Marketing, and the Executive, Information Tech-nology, and Business Offices. For 2004, the year ended with income of $17.5 million (including $1.2 million allocated from the Society's reserves) and direct expenses of $14.6 million, plus general and administrative (G&A) costs of $1.8 million, for total expenses of $16.4 million. G&A costs (the sum of Executive, Information Technology, and Business Office expenses) are allocated to other Society offices based on each office's share of total salary expenses. As a result, the Committee reported to Council that the Society ended the 2004 year with a net surplus of $1.1 million, which was $800,000 over the $313,000 budgeted surplus. This was accomplished through both higher than budgeted revenue and lower than budgeted expenses, despite incurring moving expenses associated with the Society's move into their new offices and $300,000 in support provided to the 2005 IUPS Congress. The Committee reported that the three year financial forecast is projecting that, barring any significant changes, expenses will continue to grow faster than revenue, but at a slower rate than previously projected, resulting in net surpluses of $410,000, and $321,000, and $214,000 for the years of 2006, 2007, and 2008, respectively. This revised projection is much more positive than two years ago, when a deficit had been forecast over this period.

The Journals Program, by a 1995 Council mandate, is structured to generate a return of 10% annually. In 2004 the return was 16% ($1,884,321 net revenue/$11,988,908 total expenses).

In the early 1990's, the reserves, which the Society depends on for approximately 7.5% of its operating revenue, almost doubled due to favorable market conditions. However, the down market of 2000-2002 caused the Society's reserves to decrease from $30 million at December 31, 1999, to $26 million at December 31, 2002. After the 2003 market turnaround and a positive return in 2004, the Society's reserves at December 31, 2004 were $32 million. This is an excellent result in a difficult economy.

2005 Budget

The Council approved a 2005 budget of $17,296,600 in expenses. With revenue budgeted at $17,680,821 (including the 4% investment allocation of $1,221,049 and net revenue from Publications of $1,913,500), the budget shows a surplus of $384,221. This 2005 budget is very similar overall to that of 2004. The publications component again comprises around 85% of total income, structured to again gen-

erate a margin of 10%. The positive surplus is projected in spite of increased costs to support the 2005 IUPS meeting.

Journal Subscription Pricing

Council reviewed the Publications and Finance Committees' recommendations for 2006 journal subscription prices. It should again be pointed out that journal publication is the major (~85%) source of revenue for the Society and is the key to its financial well-being. In 1995, the Council recommended that the journals' prices be set so as to generate a margin of approximately 10% to help defray the costs of the various Society programs. The Finance Committee agrees with the Publications Committee who recommended that 2006 subscription prices be raised by an overall rate of 3%, with the exception of *Physiology* (formerly *NIPS*), and *Physiological Genomics*, whose 2006 rates will be increased 10% to help offset the higher costs incurred by those journals. A rate this low (3%) is almost unheard of, still fulfills the mandate of generating a 10% margin, and importantly will generate much good will among subscribers who have been used to 8-10% annual increases in cost.

Long Term Investments

At its spring meeting, the Finance Committee reviewed the performance of the Society's investment managers. The Society's long-term investments are administered by four managers under the direction of our investment consultant, Smith Barney. As of December 31, 2004, the accounts had the following market values: APS Reserves $32,364,563, APS Endowment Fund $3,256,426, Giles F. Filley Memorial Fund $816,849, Rife/Guyton Fund $590,941, Caroline tum Suden Fund $573,193, IUPS Fund $519,672, Perkins Memorial Fund $334,925, Shih-Chun Wang Fund $154,168, and the Lazaro Mandel Fund $142,835. The return on the managed accounts was 7.43% for the year ended December 31, 2004. The market value of the managed accounts at December 31, 2004 was $38,753,572.

2004 Audit

The Finance Committee received the annual audit from Grant Thornton, LLP. Grant Thornton audited the Society's financial statements 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, 2004 and 2003. In addition, due to the amount of Federal support received (in excess of $100,000) an audit of the Society is required in accordance with Office of Management and Budget (OMB) Circular A-133 Audits of States, Local Governments, and Non-Profit Organizations. The A-133 audit includes certain tests in accordance with Government Auditing Standards. Grant Thornton's tests disclosed no instances of noncompliance or other matters that are required to be reported under Government Auditing Standards, and the audit report noted no material internal control weaknesses. This is testimony to the excellence of the Director of Finance, Bob Price, and his staff.

Member Dues Increase

At its November 2002 meeting, the Council recommended that every two years the Finance Committee consider an increase in member dues. As a result of this recommendation, dues were increased from $100 to $110 in 2004. The Finance Committee has recommended and the Council at its spring meeting approved a $10 dues increase, from $110 to $120, beginning with the 2006 dues year. As can be seen, this is a nominal increase for a Society that provides a large number of membership benefits.

Summary

Current and projected financial conditions are strong and the Society continues to enjoy a large pool of reserves. While future projections remain positive, it is important for the APS to diversify its sources of revenue so as not to be so dependent on one program-publications-for its operations.

Peter Wagner, Chair

Council accepted the report of the Finance Committee.

APS Statement of Financial Position as of December 31, 2004

ASSETS

Cash and cash equivalents	$ 856,596
Investments	44,237,245
Accounts receivable	1,078,803
Pledges receivable	85,570
Accrued interest receivable	169,100
Advances to section editors	556,982
Prepaid expenses	122,039
Furniture, fixtures, and equipment	315,287
Total assets	**$47,421,622**

LIABILITIES AND NET ASSETS

Accounts payable and accrued expenses	$ 1,137,273
Unearned revenue	
Subscriptions	6,656,658
Dues and other	561,220
Total liabilities	8,355,151
Net Assets:	
Unrestricted	38,357,992
Temporarily restricted	695,979
Permanently restricted	12,500
Total net assets	39,066,471
Total liabilities and net assets	$ **47,421,622**

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APS Statement of Activities
for the year ended December 31, 2004

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Operating revenue:		-		
Subscriptions	$ 9,630,296	-	$ -	$ 9,630,296
Author charges	3,584,005	-	-	3,584,005
Membership dues	747,862	-	-	747,862
Grants	716,862		-	716,862
Conferences and meetings	764,224		-	764,224
Contributions	354,170	140,215	-	494,385
Advertising	158,823	-	-	158,826
Back issues	56,033	-	-	56,033
Other income	263,097	-	-	263,097
Net assets released from restrictions	187,728	(187,728)	-	-
Total Operating Revenue	16,463,100	(47,513)	-	16,415,587
Operating expenses:				
Publications	11,988,904	-	-	11,988,904
Society general	2,214,214	-	-	2,214,214
Society programs	1,164,656	-	-	1,164,656
Education	648,171	-	-	648,171
Marketing	248,104	-	-	248,104
Total Operating Expenses	16,264,049	-	-	16,264,049
Operating change in net assets	199,051	(47,513)	-	151,538
Net realized loss on investments	490,580	-	-	490,580
Net unrealized loss on investments	1,521,660	-	-	1,521,660
Interest and dividends	1,104,390	-	-	1,104,390
Investment management fees	(390,488)	-	-	(390,488)
Total Investment Income	2,726,142		-	2,726,142
			-	-
Change in net assets	2,925,193	(47,513)	-	2,877,680
Net assets, beginning of year	35,432,799	743,492	12,500	36,188,791
Net assets, end of year	$ 38,357,922	$ 695,979	$ 12,500	$ 39,066,471

International Physiology Committee

The committee discussed the overall need to have a stronger international presence of APS, particularly throughout Latin America (LA). Among the possibilities discussed the development of joint symposium or congresses sponsored by APS sections at the 2006 Latin American Physiology Society Meeting in Buenos Aires was thought to be a mechanism to enhance APS visibility in LA and increase awareness of the goals of this committee.

Six applications were received this year for the Latin American initiative. Based on committee member review and ranking, the following four applications were considered of interest. We recommend funding be approved for these four symposia:

Applicant: **James W. Hicks**; Title: "Cardiopulmonary adaptations of vertebrates (didactic)"; Location: Rio Claro, Brazil;

Applicant: **Hugo Gonzalez-Serratos**; Title: "Fourth symposium on biochemical and physiological aspects of muscle research. (didactic)"; Location: Mexico City, UNAM

Applicant: **Diego Colombek**; Title: "Physiology of circadian rhythms (didactic/research)"; Location: Buenos Aires, Argentina;

Applicant: **Ana M. Cardenas**; Title: "Thirteenth international symposium on chromaffin cell biology"; Location: Pucon, Chile.

Latin America Initiative Application: Based on what appears to be a lack of knowledge on how funds should be utilized and what are the strong aspects of the applications that are received, we have decided to revise the description of the application process for funding through the Latin American Initiative. In addition, in response to several requests, we request approval for extending the deadline for receipt of applications to March 15.

Funding eligibility: Symposium, seminar, conference, workshop or other organized, formal meeting where persons assemble to coordinate, exchange, and disseminate information or to explore or clarify a defined subject, problem, or area of knowledge will be held in any of the Latin American countries. These conferences should provide a forum targeted towards development of collaborative efforts, educational opportunities and growth of Physiology as a discipline in Latin American Universities or Centers for Investigation. Applicants must be APS members or must have an APS member as a co-applicant for course funding. Strong participation of APS members is encouraged.

Please include the following pertinent information:

Title of the Course/Symposium

Rationale for the Course/Symposium. Briefly describe the objectives of the Course/Symposium, including who will be the primary beneficiaries. What will be achieved by having this particular workshop as designed?

Names, academic titles and affiliations of all participants. It is important that participants be identified and contacted prior to submission of the application and that their willingness to participate be documented in the application.

Titles of the presentations. A clear program with length of presentations, presentation formats and content should be submitted. The total length of the course/symposia as well as the structure of presentations should be clearly stated.

Number of students, trainees, Latin American scientists expected to participate. Information on how the conference will be advertised and what the targeted audience will be needs to be included. Inclusion of regional participants is strongly encouraged. If the organizers have held similar courses, registration information and attendance should be included as historical evidence of previous success.

Description of how the economic support will be used. Cost analysis of travel, lodging, meals should be clearly identified and presented along with a short justification. Identification of who will be supported (speakers, organizers, students, etc.) should be included. Support for Latin American students, postdoctoral fellows and young scientists is strongly encouraged. Strategies to enhance participation of Latin American scientists are desired.

Identification of other sources of economic support that will be available. Institutional or organizational support for the conference is strongly desirable. Audiovisual, lodging, personnel time and effort, matching travel support are among mechanisms that need to be identified in the application. Letters of support from officials representing the additional sources of support need to be included in the application packet.

Receipt dates and funding timeline. Deadline for the receipt of applications at the APS office is March 15 for funding of the course in the following calendar year. Applications undergo an initial review by members of the International Committee at Experimental Biology. Additional information or documentation may be requested following the initial review procedure prior to making final funding decision. Availability of funding will be announced following APS Council meeting during the month of July or August.

Format of applications. Applicants must submit all required documentations along with the description of the course/symposia as an Adobe Acrobat file.

Expense reimbursement. At completion of the course, a full report must be submitted to the APS office describing how the course/symposia development fulfilled the proposed goals. Any specific changes from the originally proposed schedule/focus should be clearly outlined. The report must include information of participants registered (name, academic affiliation and rank). A copy of the final program should also be included in this final report.

Patricia Molina, Chair

Council accepted the report of the International Physiology Committee.

Council approved the necessary funding to support the four Committee-approved applications for the "Latin American Initiative" for 2006.

Council approved the revised guidelines for Latin American Initiative applications.

Joint Program Committee

XXXV International Union of Physiological Sciences

The 2005 IUPS Congress was held in San Diego, CA March 31 through April 5 under the meeting-wide theme of "From Genomes to Function." As reported previously, the scientific programming was handled by an IUPS International Scientific Program Committee, chaired by **Walter Boron**. The program was largely organized around 13 programming tracks that encompassed 89 symposia or featured topic sessions. The programming tracks were entitled: Calcium Signaling; Cardiac; Ecophysiology for the 21st Century; Education; Epithelia; Feeding, Fuel and Fat: Energy Metabolism; Genomics; Mechano- and Chemo-transduction; Muscle-Exercise; Neural Control of Locomotion: From Genes to Behavior; Regulatory Brain; Renal Control of Blood Pressure; Thermoregulation and Energetics; Tissue Dynamics in the Lung; and Vascular Physiology. Additionally, there were 43 free-standing symposia or featured topic sessions not designated into a track.

There were 330 sessions in total: 177 poster sessions, 78 symposia, 49 featured topics, 20 lectures, three controversies, one panel discussion, one tutorial, and one refresher course. The lectures included the traditional APS Society-sponsored named lectures (Walter B. Cannon, Henry Pickering Bowditch and Walter C. Randall) plus the 12 section-sponsored named lectures. In addition, there was the Microcirculatory Society's Landis Award Lecture, and four IUPS-sponsored lectures (Wallace O. Fenn, Robert Pitts, Ernst Knobil and IUPS President's Lecture). The panel discussion topic was Ethics and Physiology in the Era of the Human Genome and included the APS Walter C. Randall Lecturer on Biomedical Ethics.

The 2005 IUPS/EB included AAA, AAI, APS/IUPS, ASBMB, ASIP, ASNS and ASPET. Total registration (including exhibitors and press) was 15,868. Scientific registration totaled 12,613. This is a 17 percent increase over EB '04 in Washington, DC, where six societies met; and a 12 percent increase over EB '02 in New Orleans, the last seven-society meeting.

The Joint Program Committee (JPC) was responsible for scheduling the submitted abstracts into poster sessions and selecting the abstracts for the featured topics. A total of 8,628 (including 886 late-breaking) abstracts were submitted to the joint EB/IUPS meeting. Of that total, 3,189 (including 196 late-breaking) were scheduled into the IUPS program.

Experimental Biology 2006

The JPC met at the IUPS Congress on March 31 to begin organizing EB 2006 that will be held Saturday, April 1 through Wednesday, April 5 in San Francisco, CA. The meeting will once again feature the slogan "Translating the Genome." The Call for Abstracts and online abstract submission site will be available by September 2005. The abstract deadline will be November 2, 2005. EB '06 will again provide for a late-breaking abstract deadline, anticipated sometime in February 2006.

The sections will regain their autonomy over their individual symposia and featured topics. The JPC received 11 Cross-Sectional symposium proposals of which four were approved:

1) "Lipid Mediated Regulation of Membrane Transport," chaired by **M.S. Awayda** and **J.D. Stockand**; *2*) "Development and Maintenance of Epithelial Polarity," chaired by **J. Goldenring**;

3) "Spinal Interneurons: Underappreciated Players in Autonomic and Respiratory Regulation?", chaired by **I.J. Llewellyn-Smith** and **L.P. Schramm**; and, *4*) "Could Cell Dehydration Promote Obesity and Chronic Disease? A Multidisciplinary Look at the Effects of Hypertonic Dehydration," chaired by **J. Stookey**.

In addition, two *Techniques and Technology* workshops will be scheduled on the first day of EB '06: *1*) "Atomic Force Microscopy: Tools for the Physiologist," chaired by **G.A. Meininger** and **M.J. Davis**; and, *2*) "Live Imaging, Whole Body/Animal Imaging," organized by **P.D. Bell**.

The Physiology InFocus program, organized by **Douglas Eaton,** is entitled "Cellular Signaling: New Ideas and Approaches and Translational Research" and will feature a series of four symposia focusing on: *1*) "Cellular Signaling with Atomic Force Microscopy," *2*) "Cellular Signaling and the Role of Central Cilium in Polycystic Kidney Disease," *3*) "The Lipid in Lipid Rafts: Lipids and Signaling Molecules," and *4*) "Acute Lung Injury and Regulation of Alveolar Fluid Clearance." Note that the first tutorial fits very nicely with the first session of the InFocus program. This is something we have been trying to accomplish each year there is an InFocus program.

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 and the Liaison with Industry Committee.

APS Conferences

The 2004 APS Translational Research Conference entitled "Immunological and Pathophysiological Mechanisms in Inflammatory Bowel Disease," organized by **Matthew Grisham** and **Fabio Cominelli**, was held September 8-11, in Snowmass, CO. Fifty volunteered abstracts were received and the total meeting attendance was 119, including 30 invited speakers.

The 2004 APS Intersociety Meeting entitled "Integrative Biology of Exercise," organized by **Ronald Terjung**, Chair, was held October 6-9, in Austin, TX. The total meeting attendance was 606, including 68 invited speakers, and 337 volunteered abstracts.

The 2005 APS Conference entitled "Neurohypophyseal Hormones: From Genomics and Physiology to Disease," organized by **Celia Sladek**, was held July 16-20, 2005 at the Sheraton Steamboat Resort & Conference Center Steamboat Springs, CO.

The 2006 APS Intersociety Meeting entitled

"Comparative Physiology 2006: Integrating Diversity," organized by **David Goldstein**, Chair, will be held October 8-11 in Virginia Beach, VA.

Other Activities

The Committee is discussing the possibility of an exchange program with the Australian Physiological Society (AuPS), as well as a joint meeting with The (British) Physiological Society (TPS). The TPS is requesting that a symposia (or several symposia) be developed for their Main meeting of the Physiological Society to be held at University College London (UCL) in July 2006. The APS would sponsor this meeting.

Curt Sigmund, Chair

Council accepted the report of the Joint Program Committee.

Council approved entering into a speaker exchange program with The Physiological Society (TPS); and authorized funding needed for travel and lodging costs for the selected US speakers to attend TPS' annual meeting.

Liaison With Industry Committee

The Liaison with Industry Committee (LWIC) met at the IUPS 2005 meeting in San Diego, CA. The Committee is composed of representatives from most of the active Society sections, nominated to serve by their sections.

Symposium 2005: At IUPS 2005, the Committee sponsored a symposium titled: "Metabolic Syndrome: From Clinical Insights to New Therapies" co-chaired by **Christine Schnackenburg** and **Chahrzad Montrose-Rafizadeh**, held on the afternoon of April 4, 2005. Speakers were Robert Hegele, Nicholas Oakes, Nancy Thornberry and Sotirios Karathanasis; topics covered included: Genetic and physiological insights into metabolic syndrome, PPARalpha/gamma activation for the treatment of dyslipidemia and insulin resistance, Dipeptidyl peptidase IV inhibition for the treatment of type 2 diabetes, and the role of sphingolipids in atherosclerosis and metabolic syndrome. This is the fifth symposium sponsored by the Committee since its reorganization and we are pleased to report that it was very well received. The topics of this symposium will be published in a special issue of the *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology*.

The Fifth Annual Physiologists in Industry Mixer was held April 3, with less attendance than expected. About 15 people attended. The students and postdoctoral fellows that attended the Mixer had a good discussion in learning about science in Industry and felt that it was very beneficial to them. The time conflict with Career Committee workshop may have impacted the overall attendance. We need to do a better job of proactively advertising the Mixer in coming years, as well as trying to avoid overlapping with other scheduled events.

Novel Disease Model Award: The award typically recognizes one graduate student ($500) and one postdoctoral fellow ($800) submitting the best abstract describing a novel disease model. Six students and four postdocs applied (a total of 10 abstracts were received in 2004, an increase by two from last year). The top two abstracts included both a student and a postdoc and awards in both categories were given.

Symposium 2006: The Committee will continue its annual tradition of sponsoring high quality workshops/symposia relevant to industry and academic scientists. For EB '06 the Committee proposed a symposium on "Advances in Ion Channel Physiology." The symposium is organized by William J. Martin and has commitments from four scientists.

Chahrzad Montrose-Rafizadeh, Chair

Council accepted the report of the Liaison with Industry Committee.

Council approved the necessary funding for an LWIC mixer at EB 2006.

Council approved adding two ex officio members to the LWIC; one from the Education Committee and one from the Careers Opportunities in Physiology Committee.

Long Range Planning Committee

The Long Range Planning Committee met on April 2, 2005 at the Experimental Biology Meeting in San Diego, CA. The Committee reviewed the previous year's report and the council actions resulting from the recommendations submitted to council. The following points and issues were discussed:

Assimilation of International members into standing APS Committees and targeted membership drive for international members: While there were some improvements in the numbers of international members and meeting attendees, there was concern that the number of international members on APS committees and on editorial boards actually decreased in 2004 rather than increased. It was suggested that we should further encourage the International Committee to recommend nominees for committee and editorial board assignments and encourage the section leadership to recommend more international members for committee appointments.

Membership Drive: It was noted that total membership fell below the 10,000 mark and that full scale efforts to

recruit APS members seemed to be waning. Navar noted that many incentive programs that were developed to encourage members to recruit more members have not been pushed very hard or implemented.There was concern about the decreased membership in 2003 although it again increased slightly in 2004. No action was taken last year on the recommendation to reinvestigate the Membership Committee and improve recruitment incentives although it is noted that the new chairperson of the Membership Committee may be able to provide enthusiastic new leadership and ideas. Clearly, an important part of any membership drive will be related to the assimilation of "Systems Biology" into our Society.

Strategic Planning meeting and "Systems Biology": The Committee suggests that the Society recognizes "Systems Biology" as an emerging wave and incorporate it into Society activities as much as possible. The Committee believes that a new organization might become the preferred home for this emerging group. APS must do whatever is necessary to provide a comfortable home for system biologists. The Committee suggested that APS consider sponsoring a conference on "Systems Biology." If we ignore the systems biology movement, it will go elsewhere. APS has a great opportunity to bring systems biologists into the society and we should initiate dialogue with the leaders in the field. This is an urgent issue that must be addressed.

Undergraduate Programs in Physiology: It was noted that the recommendation on developing and establishing a plan of action regarding undergraduate programs in physiology was deferred to be addressed at the Strategic Planning meeting. We agree with this decision and encourage the Strategic Planning Committee to give special attention and adequate time to this topic. In particular, it might be worthwhile to link undergraduate programs in Physiology with Systems Biology.

Members in Industry: The Committee does not believe that APS does a good job of getting industry members involved in Society activities. APS should find out what ASPET has done to encourage more participation of members from industry in APS activities and encourage more memberships from physiologists in industry and the corporate sector.

In other points of discussion, it was thought that APS should do a better job of defining physiology as the integrative science. It was felt that APS should do a better job at public communication and public education regarding physiology. This also related to the systems biology issue. It was agreed that we need to do a better job with our public image. This brought the discussion back to systems biology.

L. Gabriel Navar, Chair

Council accepted the report of the Long Range Planning Committee.

Membership Committee

The Membership Com-mittee met in San Diego, CA at the April Experimental Biology 2005 meeting. The primary topic of discussion at the meeting was how the Committee might best serve the Society so that it can continue to recruit and retain members. As of March 1, 2005, the total membership is 9,610 and the regular membership is 7,170. The number of regular members rose sharply from 1999 to 2003 and has fallen slightly over the last two years. Over a period of six months from October 1, 2004 to March 1, 2005 a total of 303 regular members and 229 student members were approved. The new members represent a large and broad group of physiologists. The vast majority of new members hold the PhD (76 percent) and/or MD (23 percent). The average age of new regular members is 41 years. Twenty-six percent of the new regular members are female. The new members represent a broad cross section of all academic positions and ranks including Chairperson, Director, Chief, Professor, Associate Professor, Assistant Professor, Instructor, Research Scientist, Postdoctoral Fellow, Research Fellow, Clinical Fellow, and Registered Nurse. Twenty-eight percent of new members are from outside of the USA. Canada and Japan contributed 27 percent of the new regular members from outside of the USA. New members were approved from Argentina, Australia, Chile, China, Denmark, France, Germany, India, Israel, Italy, Mexico, Netherlands, New Zealand, Nigeria, Oman, Portugal, Republic of Korea, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, United Kingdom, and West Indies.

During the same reporting period, there was a decrease in regular membership by 662 and in student membership by 614. There was a net decrease in the total number of members of 763 or 7 percent. The drop in regular members appears to be due to a plateau in the number of new regular members from 2001 to current, and a sharp increase in dropped regular members from 2001 to current. Therefore, the membership committee must address the increased numbers of dropped regular members. The decrease in membership could be attributed to three factors: *1*) an increase in number of dropped members; *2*) the increase in regular membership dues; and *3*) an increase in the number of institutions not providing financial assistance for membership dues.

As requested at the last Membership Committee meeting, stickers of the APS logo were provided for all member attendees to place on the IUPS/EB registration badges. The stickers were available at the APS Exhibit Booth and in the APS Headquarters Office. The main reason for requesting the stickers was because student registration badges do not include the society affiliation. Having a sticker helps identify our student members. Additionally, some APS members are also members of other participating societies and fail to select APS. There was a lot of enthusiasm

among the members to wear the stickers and it was proposed that the stickers be available at future meetings.

The group reviewed the March 2005 status report. Concern continues regarding the large number of members dropped for nonpayment of dues. Discussion arose regarding why members are dropping and if there is a correlation between length of membership or sectional affiliation with the numbers of dropped regular members. Roughly 50 members join a month and the average age of a newly-elected Regular member is 41 years. We need to look more closely at the age of the members being dropped. It is possible that those joining at age 41 are not the ones being dropped. Rather, those dropping could be student members who transition to Regular members and are focused on other issues. Members may also be dropping because they have retired; it was noted that members are retiring earlier. The committee asked APS staff to research the regular members dropping after the first through fifth year to see what percentage converted from student membership and what percentage had retired.

Another interesting statistic regarding dropped members is sectional affiliation. Thirty-six percent of the dropped regular members were not affiliated with a section. In addition, 21 percent of regular members are not affiliated with a section. This represents 1,634 members that are not receiving information from APS sections that are specific to their scientific interests. This is indicative of the need to become affiliated with a section at the outset of membership. The new member packet includes information about the sections and, now, the membership application form includes a check-off for affiliation. It was proposed by the committee that the online membership application form should make the field for section affiliation mandatory. Additionally, it was proposed that the dues notice be revised to state "Select Sectional Affiliation" rather than "Change Sectional Affiliation." It would be advantageous to have that information on the front of the form rather than the back.

The Group agreed that members not affiliated with a section should receive a letter explaining how they maybe missing out on a major member benefit. The letter should include a brief overview of all the sections and should address the benefits of sectional membership and how it is the perfect way to become connected with the larger society. It should be noted that of regular members who are affiliated with a section there is an average of 3 percent (range 1-6 percent) of the current section membership that were dropped in 2004. Therefore, there does not appear to be one particular section that is losing a greater percentage of the members at this time.

The question was asked whether those who drop membership without a section affiliation are simply not the type to get involved anyway. There is a need for further information about the relationship between dropped members and section affiliation.

It was difficult to make conclusions on why members do not renew because there were only a few members who responded to the questionnaire about why he/she dropped from membership. An email was sent out to 311 regular members for non-payment of dues. Forty-three members responded immediately and renewed (14 percent). Thirty-three emails were returned and could not be contacted. Twelve members responded to the questionnaire. The average length of membership of the questionnaire responders is 14 years (2-28 year range). A common theme of the responders was an inability to obtain institutional or government funds for reimbursement of dues and a change in research area.

It was noted that some institutions will reimburse for meeting registration but not membership dues. Therefore, there is little incentive to join the APS if the difference between the nonmember registration and member registration is less than the annual membership dues.

The committee agreed that there is a need to have more career resources information available for members only. A particular need is information targeted to help postdoctoral fellows transition to the next level (how to get a job, how to write a grant, training, job skills, etc.) It was noted that more and more postdoctoral fellows are working in industry. The LWIC should provide job links and career information behind the members' only firewall.

It was also suggested that established and senior physiologists should be invited to write a brief note in the *American Journal of Physiology* or *The Physiologist* indicating from their own experience the benefits they achieved from being APS members. Postdoctoral fellows could also be invited to write a note indicating their personal experience and how the student membership helped them in their early careers.

The decreased membership number over the past six months was carefully discussed. Data show that 44 percent of dropped regular members in 2004 were members for five or less years. The percent of regular members who were dropped decreased for each additional five-year increment in membership.

It was suggested that sections could be more involved in welcoming new members to the APS. The section chair could send a welcome letter to the new member, providing an overview of section activities for the coming year. This would be especially helpful for new members joining at a time of year when sections are particularly quiet (such as after the Spring Meeting).

A question was asked, "How to get information across to potential applicants regarding the importance of membership in APS?" Some suggestions are:

- Ask esteemed member(s) to write a testimonial in *The Physiologist* about why membership is important. Ask the Senior Physiologists Committee to identify members who would write testimonials.
- Ask members requesting emeritus membership to write a comment about what APS has done for them over the years.
- Ask current members, who are postdoctoral fellows, to write about what APS is dong for them now.
- Ask institutional program directors (Allen Cowley, Gabby Navar, etc) to write a profile about the benefits of membership.

It was encouraged that every member wears the APS lapel pin on the coat in the lab and at meetings to promote the visibility of the APS.

A suggestion was made that, in addition to the 50-year membership acknowledgment, APS also send recognition at 10-, 20-, 30-, 40- years of membership.

The Trainee Advisory Committee has recommended, and Council approved, a new dues structure for student members beginning in 2006. Students will pay $10 for the first

year of membership, and $20 per year for the remaining four years of eligibility. The first year of regular membership will be free, and a 50 percent discount will be applied to their regular membership dues for years two to four. The group agreed that this was an excellent recommendation and applauded Council's approval.

The APS used to send the ACDP members a poster encouraging student memberships. The Committee would like her to reinstitute the mailing. ACDP should be encouraged to pay for student memberships within their departments. We need to remind ACDP that student members now have to pay dues. We should ask if ACDP members can pay for their students' memberships—or provide assistance by paying for a percentage of the dues. ACDP should also encourage faculty members in their departments to join.

Recruiting is important but we must focus on retention. A large number of students join for the free year but then drop. We will probably see a decrease in students joining with the new $10 dues but they may remain members longer.

The group questioned if there could be a student member on the Membership Committee. Allen noted that many years ago there was a student representative. It was agreed that the committee would ask Council if a student member could formally serve on the Committee.

The Committee would like APS to require emeritus members to select a section affiliation. Additionally, they wish to require emeritus members to provide an annual response indicating the desire to remain a member. Those who do not respond would be dropped.

The goal for the committee is to identify innovative strategies to recruit new members to the Society and to retain regular members, with special emphasis on assuring that student members become regular members after obtaining their professional degree. The committee is grateful for the efforts of all of our members in sponsoring and recruiting new members to the Society.

Lisa Harrison-Bernard, Chair

Council accepted the report of the Membership Committee.

Council making section affiliation a mandatory field on the membership application forms.

Perkins Memorial Fellowship Committee

The committee met on April 1 in San Diego, CA, during the XXXV Congress of the International Union of Physiological Sciences/ EB2005 Meeting.

In the past two cycles (April 2004 and October 2004), there were no applications submitted or funded. This seems to reverse a positive trend observed in fiscal year 2003-2004 where there was an increase from three to nine applications with respect to 2003-2004, of which three were funded. One of the most immediate tasks of this Committee is to study the causes that lead to lack of applications and to set new strategies to reverse this trend.

The Committee is considering sending brochures and any type of advertisement for this fellowship to the Job Advertisement Center and emailing at least one announcement to APS members. Timing of the advertisement, tightening of immigration laws, accessibility and simplicity of the application process, fellowship announcement in the application package for potential job applicants, definition of the conditions for use of the award, e.g., travel, lodging, etc, are all factors under consideration.

The committee is working via email and is planning a conference call as soon as possible to discuss these matters.

Norma Adragna, Chair

Council accepted the report of the Perkins Memorial Fund Committee.

Porter Physiology Development Committee

The Porter Physiology Development Program Committee has as its charge to: *1*) supervise administration of the Porter Physiology Development Fund; *2*) approve visiting scientists and professorships; *3*) approve teaching and training fellowships; *4*) recommend to the William Townsend Porter Foundation specific needs for laboratory and teaching equipment; *5*) counsel underdeveloped physiology departments on curriculum and other improvements; *6*) provide annual written reports to Council and the William Townsend Porter Foundation; *7*) rank applications of minority students to attend meetings of the Society, which are collated by the Executive Director and/or Education Officer; and *8*) solicit outside funds for support of the program.

Primarily, the Porter Physiology Development Program Committee has two major programs it oversees. One is the Porter Physiology Fellowship Program and the other is the Minority Travel Award Program.

Porter Physiology Fellowship Program

The purpose of the Porter Physiology Development Program is to stimulate and support the development of minority students engaged in graduate study in physiology through the awarding of predoctoral fellowships.

2004-2005 Porter Fellowships Final Reports: Final reports were received from the eight 2004-2005 Porter Fellows.

Christina Bennett, fifth-year graduate student, Department of Molecular and Integrative Physiology, University of Michigan; Research mentor: **Ormond**

MacDougald; Dissertation project: Understanding the role of Wnt signaling during adipogenesis and osteoblastogenesis. She wrote her third first-author paper this year that was accepted into *PNAS*. She finished her dissertation and defended it in April 2005. She received permission to continue her fellowship over the summer to finish a series of experiments with a transgenic mouse model she developed and write them up for publication.

Adrienne Bratcher, third-year graduate student, Department of Physiology and Biophysics, University of Louisville School of Medicine; Research mentor: **Irving G. Joshua**; Dissertation project: the role of dietary salt in the changes in arteriolar responsiveness with the development of hypertension. Her recent progress includes completion of her first manuscript for publication, submission of an American Heart Association Ohio Valley Affiliate Predoctoral Fellowship, the presentation of two seminars and one poster, and second place in the Research!Louisville Poster Competition. She also planned to submit an NIH Hypertension Grant this past summer and again teach the systemic physiology component of the University's Summer Prematriculation Program for students from underrepresented minority groups, medically underserved countries, non-traditional age groups, and economically disadvantaged settings.

Jessica Clark (Merck Fellow), third-year graduate student, Department of Pediatrics, University of Arizona Health Sciences Center; Research mentor: **Bohuslav Dvorak**; Dissertation project: the protective role of epidermal growth factor in neonatal necrotizing enterocolitis. During this past year, Clark has submitted her first first-author paper to an APS journal and has co-authored three other papers in addition to making presentations at six meetings. She has received the Herbert E. Carter Interdisciplinary Fellowship Award for 2004-2005.

Alfredo Garcia III, sixth-year graduate student**,** Department of Anatomy and Physiology, Wright State University; Research Mentor: **Jay B. Dean**; Dissertation project: Pre-synaptic and post-synaptic mechanisms responsible for hyperoxic modulation of neuronal excitability in the CA1 hippocampus.

Over the past year, Garcia has presented his research results at two national meetings, received approval of his proposal aims from his dissertation committee, prepared a manuscript for submission to *Journal of Neurophysiology*, and is working on the final experiments for an additional two manuscripts.

Damon Jacobs, fourth-year graduate student, Department of Cell and Molecular Physiology, University of North Carolina-Chapel Hill, School of Medicine; Research mentor: **Richard Cheney**; Dissertation project: Identification of Myo5c associated organelles and Myo5c function. Jacobs has successfully defended his thesis proposal over the past year, received a travel award to attend a national meeting where his poster received second place in the Minority Affairs Committee poster session, and was an invited speaker at the national meeting of the Society for the Advancement of Chicanos and Native Americans in Science and at the first annual American Indian Research Conference. He is very active in minority outreach efforts with the Endocrine Society, visiting minority colleges to speak. He was asked to teach part of a short course to undergraduate students and invited to write an article for the American Indian Science and Engineering Society's journal. He recently was selected to attend a week-long laboratory course at Woods Hole.

Walson Metzger, fourth-year graduate student, Department of Pharmacology & Physiology, UMDNJ; Research mentor: **Andrew Thomas**; Dissertation project: protein kinase C expression and activity play a critical role in the mechanism by which hepatitis B induces apoptosis in a hepatocyte model. This year Metzger has developed several new tools and molecular probes that he has validated as working in his experimental systems. He has finished all his didactic coursework for his degree. He has successfully passed his qualifying examination that advances him to candidacy status for his degree.

Gary Morris, sixth-year graduate student, Department of Medical Pharmacology and Physiology, University of Missouri at Columbia; Research mentor: **Stephen Beebe**; Dissertation project: structure function differences between the catalytic subunits C(alpha) and C(upsilon) to the cAMP-dependent protein kinase. His recent progress includes the submission of a first-author manuscript to the *Journal of Biological Chemistry*, two presentations at a national meeting, and receipt of a travel award to attend a national meeting. Gary expected to complete his degree in May 2005.

Stefanie Raymond-Whish, third-year graduate student, Department of Biological Sciences, Northern Arizona University; Research mentor: **Cheryl Dyer**; Dissertation project: in vitro estrogenicity of uranyl nitrate. Raymond-Whish received an NIH Ruth L. Kirschstein NRSA predoctoral fellowship as of December 1, 2004. Her Porter Fellowship ended as of that date. She will acknowledge APS and the Porter Fellowship in her future publications and presentations.

2005-2006 Porter Fellowships

New and Renewal Applications

The number of new applications received for Porter Fellowships continues to increase. A total of 12 new applications were received for the January 15 deadline. The Committee again noted the increase in quality of applications being received. Four renewal applications were received from 2004-2005 Porter Fellows.

The Committee decided that the Porter Fund would allow for a total of nine awards for the 2005-2006 Fellowship period. It was agreed that seven Fellowships would be funded from this round and an additional two from the June 15 round of applications.

In addition, the Porter Physiology Development Committee voted at its spring Committee meeting to review applications only once per year, beginning in 2006. The January 15 deadline will be the only deadline for receipt of applications. Originally, the Committee added a second deadline to increase the overall number of applications annually; since the number of applications at the January deadline has increased substantially over the years, the Committee elected to drop the summer application deadline.

Review of Porter Fellowship Applications

Last year, because of the increase in the number of highly qualified applications for the limited number of Fellowships, the Committee developed a set of specific criteria to assist in the review of applications. These were put into use with the new applications for the 2005-2006 Porter Fellowships. The Committee agreed the criteria were helpful and will use them for several rounds before reviewing them for possible changes.

The Porter Development Committee decided to renew three of the four renewal applications, which allowed for four new applications to be funded from the January 15 deadline. Three applications were held-over for the June cycle. One of the new awardees notified the Committee of her acceptance of an NIH Initiative for Minority Student Development grant beginning in April. Consequently, the Committee voted to fund the highest ranking of the hold-over applications, leaving only two in the pool for the June 15 deadlines. This will be the last year for a summer submission and review.

Renewal Application Awardees

Jessica Clark (Ison-Franklin Fellow), third-year graduate student, Department of Pediatrics, University of Arizona Health Sciences Center; Research mentor: **Bohuslav Dvorak**; dissertation project: the protective role of epidermal growth factor in neonatal necrotizing enterocolitis.

Damon Jacobs, fourth-year graduate student, Department of Cell and Molecular Physiology, University of North Carolina-Chapel Hill, School of Medicine; Research mentor: **Richard Cheney**; dissertation project: identification of Myo5c associated organelles and Myo5c function.

Walson Metzger, fourth-year graduate student, Department of Pharmacology & Physiology, UMDNJ; Research mentor: **Andrew Thomas**; Dissertation project: protein kinase C expression and activity play a critical role in the mechanism by which hepatitis B induces apoptosis in a hepatocyte model.

New Awardees

Lymari López-Díaz, fourth-year graduate student, Department of Molecular and Integrative Physiology, University of Michigan; Research mentor: **Linda C. Samuelson**; dissertation project: regulation of cholecystokinin expression and enteroendocrine cell differentiation by neuroD1BETA2 and neurogenin 3.

Adrienne L. Orr, first-year graduate student, Department of Molecular and Cellular Physiology, Stanford University; Research mentor: **Daria Mochly-Rosen**; dissertation project: role of protein kinase C isozymes in the injury associated with cerebral hemorrhage.

Aida Erendira Ulloa, second-year graduate student, Department of Biomedical Sciences, Colorado State University; Research mentor: **Barbara M. Sanborn**; dissertation project: role of hTrpC4 in calcium dynamics using gene silencing techniques in PHM1 cells.

Clintoria Latrice Williams, second-year graduate student, Department of Physiology and Biophysics, University of Alabama at Birmingham; Research mentor: **Erik M. Schwiebert**; dissertation project: autocrine zinc and purinergic (ATP) signaling in pancreatic beta cell physiology in health and disease.

The Porter Physiology Development Committee Fund (Financial Status)

In March 2005, The Porter Physiology Development Committee Fund had a budget of $257,745. During 2004, the fund received the following contributions: $75,000 from the William Townsend Porter Foundation, $40,000 from the APS, $10,000 from the Presidential Award, $40,000 from Merck Foundation ($20,000 each for 2003 and 2004), $245 in private contributions, and $676 from interest revenue. The Committee was very pleased to hear that the Porter Foundation increased its support of the Porter Physiology Fellowship Program to $75,000 annually. The Committee expresses its sincere appreciation for the continued support of both the Porter Foundation and the APS Council that makes these fellowships possible. Given the remaining commitments for 2004-2005 Porter Fellows of $84,000, the fund has a balance of $173,745 for new fellowships and activities.

The number of Porter Fellowships that the Committee can support will soon decline, a trend that will accelerate if the Porter stipend is to keep pace with the level recommended by the NIH for predoctoral stipends ($26,573 by 2006). The Committee's need to raise additional funds to support and expand Committee goals is becoming more critical and will be an important area in which the Committee plans to work in 2005-2006.

Porter Reception

For the past few years, the Committee has held a reception for travel fellows and their mentors and past and current Porter Fellows. This was begun with the goal of building stronger connections between minority students and the larger community of APS scientists, especially other minority scientists. The Porter reception again this year was extremely successful with an increase in attendance; more than 100 physiologists, overall, attended the event. Importantly, the reception continued for more than two hours as participants interacted and networked with one another. In addition there was an increase in the number of former Porter Fellows who attended, including those in more senior positions.

Minority Travel Fellows Program

In January 2005, the Committee served as the review panel for the APS Minority Travel Fellowship Awards. Forty-two travel fellows were funded to attend IUPS/EB 2005 in San Diego, CA. Nine additional travel fellowships were awarded to attend APS conferences. Again this year, the Committee was pleased to learn that former Porter Fellows and past Travel Fellows volunteered to be mentors for the new Travel Fellows. Committee members noted the increase in minority physiologists as a direct result of the Porter Committee's work.

APS Awards for Undergraduates at the Annual Biomedical Research Conference for Minority Students (ABRCMS)

This meeting attracts more than 1,600 minority undergraduate (82%) and graduate students (18%) across the country and provides an opportunity to recruit students into the physiological sciences and the APS. The APS, along with more than 280 graduate institutions and professional

associations, exhibited at the 2004 meeting in Dallas, TX promoting graduate study in physiology and the APS programs for minority students. The Committee requested and received $2,000 for eight $250 cash awards for the most outstanding undergraduate presentations in physiology research. Thirty judges, including APS members, Margaret Colden-Stanfield, Morehouse School of Medicine; Cary Cooper, University of Texas Medical Branch; and Barbara Horwitz, University of California-Davis, selected the winners for their presentations:

Best Sophomore Poster Presentations: **Christopher Hamm,** Morehouse School of Medicine, Atlanta, GA, Abstract Title: "Induction of CYP3A4 by Herbal Components in Human Hepatocytes Cultures." **Qwan Michelle Turton**, Wayne Community College, Goldsboro, NC, Abstract Title: "The Effects of 17ß-estradiol on Zebrafish Angiogenesis."

Best Junior Poster Presentations: **Garrett Mann**, Morehouse School of Medicine, Atlanta, GA, Abstract Title: "Effect of Eplerenone on Salt-Induced Hypertension in Dahl Salt-Sensitive Rats." **Latoya Poole**, Fayetteville State University, Fayetteville, NC, Abstract Title: "Paraquat Sensitivity Assay of MnSOD and Cu/ZnSOD Double Mutant."

Best Senior Poster Presentations: **Mario Ball,** Morehouse College, Atlanta, GA, Abstract Title: "The Use of Orthogonal Images to Measure In-vivo Knee Joint Kinematics." **Jose Figueroa**, University of Houston, Houston, TX, Abstract Title: "Pharmacological Manipulation of the Pupillary Light Response in the Syrian Hamster." **Mario Penzo**, Universidad Central del Caribe, Bayamon, PR, Abstract Title: "Neuroprotection by 4R-cembratriene-diol through the $x_4ß_2$ Nicotinic Receptor is mediated by Activation of the Akt/PKB Pathway." **Sheryl Sands**, Spelman College, Atlanta, GA, Abstract Title: "Histamine H2 Receptors Mediate the Histamine Response in Cultured Guinea Pig Gallbladder Epithelial Cells."

ABRCMS has requested continued APS support of $2,000 for eight cash awards of $250. The awards provide an excellent opportunity to encourage and support both minority undergraduate student research in physiology and their transition to graduate work in the field. This will be the fourth year of APS support for this very important event.

Gregory Florant, CoChair
H. Maurice Goodman, CoChair

Council accepted the report of the Porter Physiology Development Committee.

Council approved the funding for the APS awards at the Annual Biomedical Research Conference for Minority Students (ABRCMS).

Council approved the necessary funding for a Past Porter Fellows reception at EB 2006.

Council authorized moving the application process from a twice a year to a once a year process with the application submission deadline to be January 15.

Public Affairs Committee

The Public Affairs Committee advises the APS Council on policy issues and how best to address them. The Committee also informs Council of specific initiatives undertaken by the Committee itself. The Committee recognizes the importance of careful integration of its activities with Council's goals as well as with activities of the Animal Care and Experimentation Committee, the Communications Committee, and the Science Policy Committee of the Federation of American Societies for Experimental Biology (FASEB). It has worked closely with these groups to define and reach common goals. Likewise, the Public Affairs Committee works closely with the APS Office of Public Affairs both to coordinate activities and to more effectively communicate relevant issues to Council and, when appropriate, to the general membership.

A major focus of the Public Affairs Committee is to advocate for federal funding of biomedical research. As was true at the time of last year's report, results of our efforts over the past year have been disappointing. With much of the legislative and executive attention being devoted to funding US military efforts in Iraq and Afghanistan, funding for NIH, in particular, suffered and continued to lose ground taken during the doubling effort. While the slightly increased NIH budget does not keep up with inflation, the budget for the Department of Veterans Affairs will actually decline. APS and its Public Affairs Committee continue to work with elected representatives to assure their having all the information that they need to realize that stagnant (or declining) funding of NIH, VA, and NSF would have a negative short and long-term impact on the health of research in our country. However, it is essential that members of the Society take every possible opportunity to act as their own advocates in that regard. Calls to advocacy through the FASEB Legislative Action Center (LAC) need action from our members. Calls and other communications from scientists clearly can have an impact on Congressional opinion and votes as exemplified by recent successes in the House when it considered expanding access to embryonic stem cells.

In order to promote advocacy amongst its members APS participates with the (FASEB) to expedite and enhance advocacy through the LAC, which is run by FASEB after being initially developed by APS. The LAC can now be accessed on the FASEB web site at http://capwiz.com/faseb/home/. The Public Affairs Committee urges APS members to act through that site to promote issues that they feel are critical for American biomedical science and to stay alert to calls for action that can be made through that site.

One critical issue for physiologists is continued use of animals in research and teaching. Therefore, the Chair of the Public Affairs Committee, serving as Chair of the

FASEB Animal Issues Subcommittee, has prepared and installed on the FASEB website a page that deals with use of animals in research. Among other informative features on that page is a Power Point presentation that deals with benefits derived by use of animals in research, counterarguments to statements made by animal rights advocates, and mechanisms that are in place to assure proper, humane use of animals in research. The user can select any or all slides from the website for insertion in lectures to emphasize the important role that animal studies have had in physiological work.

Federal funding of biomedical research has remained a top priority for the Public Affairs Committee. The Committee recognizes that not only have budget legislation and external forces contributed to reduce NIH (and other federal) dollars for research, but also that reorientations of priorities within the support agencies have led to the potential for redirection of support. Therefore, the Public Affairs Committee has worked with Council to revisit the relationship between APS and the "Bridging the Sciences Initiative," which seeks to expand NIH support of cooperative ventures between the non-biomedical and the biomedical sciences. In a time of decreased legislated support for NIH such a redirection of support could lead to reduced investigator initiated grant support in the biomedical sciences, an outcome that would be counter to the interests of the APS membership. Similarly APS and FASEB have sought to provide input to the NIH to assure that implementation of the roadmap would not itself compromise access to investigator-initiated grant support.

The Public Affairs Committee and APS continue to work closely with FASEB on numerous other public affairs issues. These include scientific ethics, peer review, use of animals in research, postdoctoral training and postdoctoral support, conflict of interest issues at NIH, advanced public access policies by NIH, and open access publishing. The Chair of the APS Public Affairs Committee serves on FASEB's Science Policy Committee (SPC) and, on that committee, chairs the Animal Issues Subcommittee. Further, he is a member of the NIH Issues Subcommittee, the Public Access Subcommittee, and the ad hoc committee on oversight by the Office of Management and Budget. Through that membership APS has been represented on FASEB position papers and letters regarding conflict of interest policy at NIH, advanced public access and its potentially deleterious effects on societies and journals, OMB efforts to apply the Program Rating Assessment Tool (PART) to assess the product of federal funding of research, and policies on embryonic stem cell research. The Chair of the APS Public Affairs Committee has recently accepted appointment for a three-year term as the FASEB representative to the Board of Trustees of the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC) where he joins the Chair of the APS Animal Care and Experimentation Committee as a member.

The Public Affairs Committee continues to work with officials at NIH in efforts to promote training and retention of scientists in integrative or systems physiology. APS efforts have complimented those of other FASEB societies such as ASPET and AAA. The organizations seek to emphasize the need for development of scientists who can bring the innovations allowed by molecular biological approaches to whole animal research and the study of mechanisms that underlie systems physiology. Such a multifaceted approach to the study of physiology is in keeping with the NIH Roadmap and promotes integrative and systems science as a partner with more cellular approaches.

The Public Affairs Committee recognizes that it is an instrument of the Society as a whole and must work to respond to the needs of the Society as directed by its leadership. Within the next year Council and the Executive leadership of APS will seek to revitalize the Society's strategic plan. The Public Affairs Committee has begun it analysis of Strengths, Weaknesses, Opportunities and Threats (SWOT analysis) as they relate to public affairs efforts of our society. To promote Public Affairs and make it even more responsive, the Committee will seek to enhance further its communication with Council and with the Section Advisory Committee, thus providing an expanded avenue for membership to have the needs that it recognizes addressed. Implicit in that responsibility, however, is recognition that advocacy cannot be effectively applied through committee. It is the responsibility of each member of the Society to speak forth on issues that affect us all. Public Affairs will continue to seek to provide members the most "user-friendly" means to do so.

William T. Talman, Chair

Council accepted the report of the Public Affairs Committee.

Council authorized the Committee to make broad based announcements to APS members prior to annual corporate shareholder meetings so that APS members can be made aware of resolutions brought by organizations such as PETA and choose to vote against such resolutions.

Publications Committee

APS Journals the Best in Their Field

Impact Factors. The Journal Impact Factors made a strong showing again in 2004. *PRV* now ranks third among all journals. APS Director of Publications Margaret Reich worked with Thomson Scientific to promote and develop other measures of impact besides the two-year Impact Factor. An article by Marie McVeigh of Thomson Scientific was published in the August 2004 issue of *The Physiologist*, along with a table showing the hand-calculated five-year Impact Factors for all our journals.

Manuscripts Received. Submissions are up 8% across all journals in 2004 and are up 5% in 2005 so far.

Submissions of Reports were up 58% and submissions of Translational Physiology papers were up 69%.

News in Physiological Sciences (NIPS) ***changes to* Physiology.** Under the leadership of the new Editor, **Walter Boron**, *NIPS* was transformed into *Physiology* with the August 2004 issue. The transformation included a new four-color design with professionally redrawn figures in every article, and new front-section features. It has generated positive comments that have been sent to the Editor and APS staff.

Physiological Genomics

The Council asked the Publications Committee in July 2004 to review various business/open access (OA) models at their spring 2005 meeting, for recommendation to the Council. The Committee reviewed seven business models prepared by staff and chose one that assumes that all authors will pay traditional author fees, but those authors who want to make their article OA will pay an additional fee of $750. Subscription and other (reprints, royalties) revenue are included in this model. This change will be effective January 1, 2006.

Publication Efficiency

Time to first decision. Use of APSCentral has allowed editors to decrease their time to first decision, which averaged 30 days in 2004 across all the monthly original research journals. Implementation of APSCentral has also helped the editors of *PRV* and *Advances* manage the review process of these journals more efficiently.

Interior redesign. Subtle changes made to the text and headings style of all original research journals starting with the January 2004 issues led to a 5% savings in the number of pages, while at the same time giving the title pages of each article a fresher look.

SGML up-front workflow. An SGML up-front workflow was implemented with the 2004 issues of all the journals. This should afford some efficiencies in production and the ability to use publishable article files before the print issue is created.

Production module. The Rapid Production Module (RPM), which will allow electronic tracking and trafficking of files to streamline journal production, was developed with Cadmus, our printer, and implemented at APS with *JAP* in May and the other journals in June 2005.

Financial Stability and Increased Accessibility

Subscription Sales. Journal prices for 2005 were once again set using a cost-based model. The downturn of subscription sales in recent years slowed in 2004, due in large part to the increased efforts in Europe by our sales agent there. Units were down only 2% (compared to 6% last year), but revenue increased 8%, allowing us to keep our 2005 price increases to a low 5%. The 2006 price increase is 3% for all journals, except *PG* and *Physiology*, which will be increased 10%.

Consortia. APS continues to respond to requests from consortia of libraries or institutions, giving them a 5-15% graduated discount for 6-31+ online subscriptions, if we are not losing subscription dollars by doing so. Sales were made to 38 consortia in 2004.

Asian Sales Agent. APS contracted late in 2004 with an Asian sales agent, iGroup, to sell institutional subscriptions in Asia, which is a less established and more complicated market.

Legacy Content. The last phase of Legacy Content, going back to 1898, was put online in 2004. The Legacy Content is sold as a product with a one-time price of $2000. Unit sales were 132 in 2004, with overall unit sales at 332 at the end of April 2005.

Open Access and the NIH Policy. As a response to the NIH policy requesting that authors submit their accepted manuscripts to the NIH database for archiving and public dissemination, the Committee agreed to add language to the Manuscript Submission Form, along with an explanatory memo to authors, granting authors permission to voluntarily submit their accepted manuscript to the NIH's PubMedCentral, with public release 12 months after final publication in the journal. The rationale behind this decision is to help authors meet the perceived requirement of the NIH while preserving APS's copyright of their accepted articles.

Reducing Member Costs

APS members started receiving free online access to all journals in 2002. APS members continue to take increased advantage of the free color policy (except student members, who do not receive this benefit), but an analysis of the costs revealed that although the uptake continues to increase, the cost per figure is decreasing with the increase in color throughout the journal. Because of this and the perceived popularity of this benefit, the policy was not changed in 2004.

Electronic Handbook of Physiology

Proposals from Elsevier and Blackwell to publish APS's books were reviewed by the Committee. The Committee asked staff to pursue a contract with Elsevier, and staff is doing so. Elsevier's proposal includes plans to develop an online edition of the Handbooks.

Innovative Use of Electronic Publications

Supplemental Material. A total of 103 data supplements were published in 2004, of which 30 were video clips. Approximately 70% of the supplemental large data sets were published in *Physiological Genomics*. A change was made in 2004 to make all supplemental data free—in other words, a reader can view supplemental data without a subscription to the journal, even if they cannot view the entire article.

HighWire Interface. Improvements to the HW site continued, including the implementation of "extended pdfs," which automatically add a cover sheet to downloaded pdfs. The cover sheet contains useful information about the article, including some citation history and corrigenda, if applicable. This function also adds a branding mark to each page of the pdf, so that readers will know where it comes from and who printed it out for their use. The decision to pur-

chase a function that allows readers to download figures as power point slides was made at the October 2004 meeting, to be implemented in 2005.

Classic Articles Collection. As an outgrowth of the Legacy Content project, the Classic Articles Collection was rolled out on the APS web site in August 2004. A Task Force chaired by **Hershel Raff** commissioned 23 essays for publication online and in print within the appropriate journals if the editor agreed. Each essay is linked to its classic article, which was made free online in the Legacy Content. These essays have been well-received by the membership, particularly those involved in the training of graduate students.

Translational Research

Call for Papers. A Call for Papers on Translational Physiology has run since the June 2001 issues of all the APS research journals. The papers are being published as they are accepted under a special heading in the journal of submission. Across all the journals, 130 papers were submitted and 54 papers were published under the Translational Research heading in 2004.

Physiology in Medicine. An agreement was made in 2001 to publish the "Physiology in Medicine" (PIM) series in *Annals of Internal Medicine*, with **D. Ausiello** as the editor of the series, and **Dale Benos** serving as deputy editor. Benos became Editor-in-Chief of this series on January 1, 2005. Five "PIM" articles were published in *Annals* in 2004 and one so far in 2005.

Other Items of Significance

Ethical Issues: The Ethical Policy was reorganized with subheadings so that it is easier to find the specific guidelines about various ethical issues.

Clinical Trials Registry: Registering clinical trials was made a requirement for peer review and publication. There must be a statement in the Methods section that states where the Clinical Trial was registered.

Publications Committee Chair

Dale Benos' two terms as Publications Committee Chair ended December 31, 2004. **Kim Barrett** was selected to succeed him in 2005. Some of the accomplishments during Benos's terms included the transition to electronic publishing, including web-based peer review, immediate online publication, the Legacy Project and the Classic Articles collection; the creation of the journal *Physiological Genomics;* the reinvigoration of the PIM series; the revamping of *NIPS* to *Physiology*; and the development of an ethical policy that is a model for other societies and journals.

Kim Barrett, Chair

Council accepted the report of the Publications Committee.

Section Advisory Committee Report

The Section Advisory Committee (SAC), chaired by **Susan M. Barman**, has held two meetings in the past 12 months in which 11-12 sections were represented. The major objective of the first meeting in Bethesda MD on December 13, 2004 was to assist the Society in preparation for the 2005 Strategic Plan meeting by identifying strengths, weaknesses, op-portunities, and threats (SWOT analysis) facing the APS. In addition, **John Williams** (past president of the APS) updated SAC members on recent Council activities, and **Martin Frank** encouraged Section Chairs to include information on "Open Access" in Section Newsletters. Time was also spent discussing Section Award finances and ways to highlight trainees at Experimental Biology (EB) meetings. The following morning, section Chairs reconvened as the Nominating Committee to select candidates for President-elect and Council. The major agenda items for the second meeting of SAC on March 30, 2005 prior to the IUPS Meeting in San Diego, CA was to the review annual Section Reports and to discuss issues related to Section Awards and soliciting funds for Section activities. Below is a summary of some of the changes made over the past year that are viewed as improvements in the operation of the Sections and areas where progress is still needed.

Section Awards

Section Steering Committees take great pride in being able to award trainees travel awards for attendance at EB meetings. In response to a request to Council last year by SAC members, all Section-based Award winners names and photos (when available) will now be published in an issue of *The Physiologist*.

Sections are interested in identifying mechanisms to increase the funds in these accounts through charitable contributions. Whereas some Sections have had considerable success in obtaining new funds annually for their awards, other Sections are concerned that the lack of additional funds might compromise their ability to sustain their awards. APS members are encouraged to support their Section activities via making a donation to these funds. For more information or to make a donation, see the APS web site.

Although some Sections report an increase in the number of outstanding applicants for their trainee awards, several sections again received no applications for their New Investigator Award (NIA). A brief description of the Award criteria are: "Candidates should be investigators who have made meritorious contributions to the area represented by the APS Section to which they are applying. They should not be above the rank of Assistant Professor or a comparable position in a research track at an academic institution or in industry (e.g. Scientist, Sr. Scientist, Research Investigator, etc.). They should receive nominations from at least two regular members of the APS. Candidates will be

judged on their publications, how the publications relate to the APS section to which they have applied, and evidence for independence and promise (grant funding, peer review activities, etc.)." In an effort to highlight NIA recipients, they are encouraged to submit a mini-review to an appropriate APS journal for possible publication. In an effort to increase the number of applicants for the NIA, SAC members have made a proposal to Council that would allow individuals to apply for this award at any point during the year, although the award would still be made the EB meeting. Another proposed change in the process is that an individual would only be allowed to apply for an NIA offered by the Section they list as their primary affiliation.

Don Reis Memorial Fellowship

EB 2006 will be the start of a new annual Featured Topic session that will highlight the Don Reis Memorial Fellowship award winner. The Cardiovascular, Central Nervous System, and Neural Control of Autonomic Regulation Sections have worked together to make this a reality. The three sections will rotate using one of their Featured Topic allotments for this session. Six trainees (two from each of the Sections) will be selected on the basis of their abstracts to present in this session. Their presentation will be judged to identify the Award winner. Funds for this fellowship are from the Donald J. Reis Fund in honor of his outstanding contributions to the field of neural control of the circulation.

Role of APS Publications in Section Activities

While some Sections have had a long history of strong cooperation with their journal representative, just a few short years ago several Sections were very discouraged by the failure of their journal representative to take an active role in their Section activities. Thanks in large part to the efforts of **Dale Benos** and the Publications Committee, this year all Sections reported favorable interactions with their journal representative. One example of a positive change was mentioned above regarding publication of a mini-review by NIA recipients. Another example is that **Alberto Nasjletti**, editor of *AJP: Heart Circulatory Physiology* has implemented, on a trial basis, inclusion of the Chair of the Cardiovascular Section as an Associate Editor of the journal.

Trainee Members of the Sections

Over the past couple of years, Sections have encouraged trainee members of their steering committee to participate in section activities beyond those associated directly with their role on the APS Trainee Advisory Committee. Trainee members are now serving on some Section Program Committees and are allowed to organize a Featured Topic. Other Sections have included these members on other Section subcommittees (e.g., Awards) or included a Trainee page on the Section Newsletter. SAC also discussed ways in which APS could help highlight trainee members' participation at EB meetings. Steering Committee members are encouraged to visit posters presented by trainees, reserve an evening where trainees could present their posters, or have a trainee-poster session in conjunction with the Distinguished Lecture.

International Physiologists role in Section Activities

In response to the request by the International Physiology Committee to increase participation of international members in APS activities, many of the Sections have included an international APS member on their steering committee.

Getting Involved in APS Section Activities

APS members are encouraged to become active participants in their Section activities. Each APS member can select one primary affiliation and as many secondary affiliations as fit their interests. For those who are interested in becoming more involved in sectional activities, you can contact SAC members at: http://www.the-aps.org/committees/members/sac.htm. For further information on the Sections, go to http://www.the-aps.org/sect_groups.htm.

Susan M. Barman, Chair

Council accepted the report of the Section Advisory Committee.

Council approved a plan to seek greater return on the interest in the Sections' accounts used to support trainee travel to Experimental Biology Meetings.

Council approved allowing individuals to apply only for awards offered by the Section that is listed as their primary affiliation. New Investigator Award (NIA) candidates would also only be allowed to submit applications to the Section listed as their primary affiliation.

Council approved changing the deadline for the New Investigator Awards to be one month prior to the abstract deadline for the EB meetings.

Senior Physiologists Committee

The primary responsibility of the Senior Physiologists Committee is to contact members who reach their 70th, 80th, 90th, or 100th birthdays during the year. The letter of greeting includes an invitation to inform the membership of the APS about the whereabouts and activities of the senior physiologist. The invitation is usually open ended, and is meant to encourage the senior physiologist to include historical and philosophical commentary. In 2004 a total of 211 individuals were contacted by members of the Committee; 25 response letters were printed in *The Physiologist*. Some of the recipients are members of the Committee.

Anecdotal evidence, insufficient for peer review in the Society's journals, attests to the popularity of the publication of these responses. The members of the Committee were asked a few years ago to survey the non—senior mem-

bership at their institutions about the popularity of the feature. Graduate students, fellows, and younger faculty reported that they read the letters regularly, and more senior faculty also report their delight at the many interesting stories the letters contain.

The Senior Physiologists Committee also reviews applications for the Senior Physiologists Award, a $500 grant named for G. Edgar Folk, Jr., which is designed to support the activities of a senior member. One application was received and an award was made in response.

Donald J. Marsh, Chair

Council accepted the report of the Senior Physiologists Committee.

Trainee Advisory Committee

In its second year, the Trainee Advisory Committee (TAC) has formed subcommittees and began making progress on our projects, and completing initial projects. The Committee's discussions remain focused by the charge from the APS Council. The Committee met twice during its second year, once during a two-day fall meeting in Bethesda and again at the 2005 Experimental Biology meeting. The fall meeting proved instrumental in getting the Committee's projects well underway.

TAC Trainee Survey

The TAC conducted a Trainee Survey with the help of the APS staff. Each TAC member sent email messages to their respective Section listservs asking trainees and new investigators to participate in the survey via a link to an online survey site. The survey included ranking the importance of several issues (e.g., balancing work and family, mentoring, grantsmanship, and teaching) and a few short answer questions. Responses from both APS member and nonmember graduate students, postdoctoral fellows, and new investigators were requested (along with status identification) to allow assessment of needs from many perspectives.

A total of 224 people completed the survey. Graduate students composed 38 percent of the respondents, postdoctoral fellows 33 percent, and new investigators 20 percent. These results are already focusing many of the Committee's efforts (email newsletter, trainee web page, EB workshop, etc.) and are being shared with the Education, Careers in Physiology, Women in Physiology, and Porter Physiology Development Committees as well as with the APS Membership and Marketing Departments. The survey was viewed as being very successful for the Committee in verifying the main issues faced by trainees and holds promise for future feedback and suggestions from the APS trainees.

Trainee Advisory Committee Symposium, Experimental Biology 2006

The TAC discussed the upcoming symposium slot and selected the topic, "Transition from Postdoc to New Investigator," for its first EB session. Specific speakers and session format is being finalized. The TAC will work with the Women in Physiology and Career Opportunities in Physiology Committees, as both those Committees would like to plan complimentary sessions. Representatives from all three committees will work to make sure the three sessions do not overlap in content.

Trainee Email Newsletter and Web Page

Email Newsletter: The TAC decided to use the previously established trainee listserv, which was initially populated with all student members, as the vehicle for the trainee email newsletter. Messages are sent out on a monthly basis by APS Education Office staff and include relevant APS and other news, notice of award opportunities, and postdoctoral position openings. Hamblin and Stocker work with APS staff to develop the content, ensure the newsletter comes out on a monthly basis, and provide content relevant to the Committee charge. This spring, Hamblin and Stocker also developed a special e-newsletter issue containing a list of all relevant EB/IUPS career sessions for trainees. Each Committee member distributed the special list via their section listservs as well as the trainee listserv. The list was very well received as indicated by comments and emails from trainees as well as regular APS members.

Web Page: The Committee is working on developing the TAC page to include links to relevant materials on the APS web site as well as elsewhere. Announcements of the new material can be sent out via the trainee listserv. One of the questions the committee hopes to address at its fall meeting is whether there should be a larger trainee website behind the members-only firewall and how the APS website can provide support for undergraduates who are involved in physiology research to promote their continued work in physiology.

Trainee Committee Representatives

Last fall the TAC discussed which APS Committees should have trainee representatives. That request was sent to the Committee on Committees, which then passed it along to the appropriate committees for a vote at their EB committee meeting. As a result, the Committee hopes to catalyze additional trainee input to APS activities coordinated by a number of committees.

Sectional Responsibilities

Most of the TAC members have been asked by their sections to write short articles on the Committee's activities for their section newsletter; many have already done so, providing reports on TAC activities and suggestions to trainees on making the most of meetings, etc. All TAC members were encouraged to write articles to increase the visibility of the Committee and of trainees. As each member writes a brief article, they post it to the Committee listserv and share with others on the Committee. Then the other Committee members can include that article and either expand on it or focus on another aspect of the

Committee's activities, allowing for more material to be in each section's newsletter.

Because all of the TAC members are appointed by their respective section, each section was asked to begin identifying how it plans to name a successor to its TAC member. Most of the sections developed a method for selecting their TAC representative during their Steering Committee meetings at EB. In addition, some sections chose to extend the term of their current representative to allow for one-third of the TAC members to rotate off each year, rather than half as is currently scheduled to happen.

The Cardiovascular Section and TAC representative Hamblin have initiated a CV Trainee committee to promote interaction and involvement of trainees in their Section. This seems an informative additional model to increase trainee participation within APS Sections and aid in selecting a future sectional TAC Representative.

Postdoctoral Issues

Committee Chair Caroline Sussman remains involved in the NPA on its Diversity Committee and another Committee member (Golder) has joined the NPA International Issues Committee. Both report on activities from the NPA to keep the Committee up to date. APS has also become a sponsoring society member.

Fall Meeting

The TAC held a 1.5-day fall meeting last year. This meeting allowed Committee members to accomplish much more than they would have been able to do in a conference call. The meeting allowed the Committee to develop a recommendation for Council on student membership dues (which was subsequently approved by Council), finalize the trainee survey, begin planning for a symposium at EB 2006, discuss the trainee newsletter and web site, receive a detailed report on the NPA, and have a general discussion of issues facing trainees today. The TAC would like to hold another fall meeting in 2005 to continue its work on a number of important fronts.

The survey was targeted at graduate students, postdoctoral fellows, and new investigators. The large majority of both those who started (77%) and completed (91%) the survey were in one of these three categories. Therefore, the survey attracted responses primarily from the intended target group.

Of the new investigators responding, equal numbers were in tenure-track and non-tenure track positions. However, it should be noted that more than a quarter of the new investigators responding to the survey did not indicate whether or not they were in tenure-track positions.

Half of the graduate students, two-thirds of the postdocs, but almost all the professional students, new investigators, and established investigators responding were APS members.

Many of those respondents indicating they were not APS members still answered this question and selected a sectional affiliation. Most of the sections have reasonable representation in the respondents overall. No CNS, Teaching, or Water & Electrolyte Section graduate students responded. There were no postdoctoral fellows responding from the Teaching Section.

When asked about professional skills they were most interested in learning about, the top two choices for graduate students, postdoctoral fellows, and new investigators were lab and personnel management and teaching guidance (how to prepare for a teaching career). Being a mentor was also a highly-rated choice.

When asked about the professional activities that they would like to learn more about, for all three groups (graduate students, postdoctoral fellows, and new investigators), grant opportunities was the number one topic. Award opportunities were also highly rated by all three groups. Graduate students and postdoctoral fellows also expressed interest in travel funding information while new investigators were interested in learning more about grant reviewing.

Not surprisingly, the number one choice for graduate students and postdoctoral fellows was developing skills for job searches and interviews. New investigators were especially interested in advancement and promotion. This was also a highly rated topic among graduate students and postdoctoral fellows, along with learning more about career options.

When asked about institutional, legal, and policy issues, compensation (salary) and benefits were the top two topics of interest for all three groups. There was only moderate interest expressed in international issues.

All three groups expressed interest in learning more about time management (getting everything done at work and at home) and balancing a two-career family. Information on relocating was also rated of interest to these groups.

The survey asked where respondents would prefer to access the information on the career topics in which they had just expressed interest. The top choice for all three groups was via website, followed by electronic (email) newsletter, and EB symposia. Less interest was expressed in attending separate workshops or holding online discussions, although new investigators gave a high rating to holding small group discussions at EB.

When asked about attendance at key meetings for postdoctoral fellows (e.g., National Postdoctoral Association and the National Academy meeting on postdoctoral fellows), only a few respondents had participated in one or both of these meetings. When asked about attendance at EB in the past year, surprisingly, less than half of the graduate students had attended and only about half of the postdoctoral fellows had attended. The majority of new investigators (70%) had attended.

When asked why they did not attend EB, the most common response was lack of funding (n=21). Other frequently cited reasons were that EB was not their top priority meeting (n =12), they had timing conflicts with other activities (e.g., experiments, teaching, moving, and other meetings) (n =17), no data to present (n =9), and being a new student or new to APS (n =20). Interestingly, 11 respondents indicated that they weren't aware of the EB meeting. There were only a few comments indicated that respondents did not attend EB because it doesn't meet their needs.

The survey also asked respondents who attended EB

whether they brought family members with them. Very few had done so (n=15 total). Postdoctoral fellows were most likely to have brought family members (21 percent) and the children who attended were young (8 years or younger).

Only new investigators indicated it would be helpful to have child-oriented activities at EB but there was not overwhelming interest even for them (61 percent). Postdocs were next most interested (45 percent). The remainder of the groups were basically neutral on the issue.

Suggestions for making EB more family friendly included modeling programs after the SACNAS meeting, providing children's activities and family tours and events, allowing family members to attend meeting sessions with paying registration, and providing shuttle buses between the convention center and the hotel.

When asked for suggestions for the Trainee Advisory Committee, very few respondents made specific suggestions. Several commented that the survey had made them aware of the existence of the TAC and that there should be additional efforts to both inform trainees of the TAC's activities and APS offerings for trainees and to involve new APS members and trainees in Society activities. One respondent suggested, "Become more proactive about integrating new members such as myself. I seem to be primarily responsible for determining how to become involved with the APS." Other suggestions included providing a forum for discussion about education, pay more attention to the training of non-Americans (reflecting differences in the training process in other countries), and offering more trainee advising and expanding the mentoring program, One trainee recommended that the committee use methods that can benefit the most trainees, rather than just a small group.

At the end of the survey, respondents could sign up for the TAC email newsletter which is sent monthly from the APS Education Office. Of all survey respondents, 69 percent elected to sign up for the newsletter. Postdoctoral fellows (78 percent) and graduate students (73 percent) were most likely to enroll but 61% of new investigators also signed up.

Comments from Staff

Because the online sectional survey attracted responses from the primary target groups, it could become a regular feed back tool for the TAC when input is needed from those groups. Also, the survey served as a good means to raise awareness of the TAC and APS activities for trainees.

Trainee newsletter: It will be important to remember that the newsletter also goes to new investigators. Therefore, topics that they expressed interest in should be covered in the newsletter as well.

Caroline Sussman, Chair

Council accepted the report of the Trainee Advisory Committee.

Council authorized funds for a 1.5-day fall meeting of the Trainee Advisory Committee.

Women in Physiology Committee

Bodil Schmidt-Nielsen Distinguished Mentor and Scientist Award

Seven nominations for the second Bodil Schmidt-Nielsen Distinguished Mentor and Scientist award were received by APS office and reviewed by the Women in Physiology Committee. **Christin Carter-Su** of the University of Michigan was selected as the 2005 awardee. The award carries a stipend of $1,000 plus travel expenses to attend the IUPS/EB2005 meeting. The awardee gave a 30-minute lecture on mentoring to young physiologists and their mentors and wrote an article based on the lecture for publication in *The Physiologist*. The lecture followed a luncheon to which were invited Bodil Schmidt-Nielsen, the former Schmidt-Nielsen Awardee, **R. Clinton Webb**, mentees of Dr. Carter-Su, awardees of the various APS award programs (tum Suden, Minority Travel, Porter Fellows, etc.), APS Council members, other trainees, and guests specified by the awardee.

APS/ASPET Mentoring Workshop

One of the roles of the APS Women in Physiology Committee is to coordinate activities with other such committees within FASEB. For IUPS/EB2005, the Women in Physiology Committee co-sponsored a workshop with ASPET Committee on Women in Pharmacology on "Managing a Laboratory." This year ASPET was the primary lead on the workshop, since APS had taken the lead for the past few years. **Siribhinya Benyajati** from the Women in Physiology Committee and Lynn Wecker from the Committee on Women in Pharmacology served as co-organizers.

The workshop was designed to inform young physiologists how to deal with many of the issues they will face starting their own laboratories. Four speakers discussed the following topics: **Sue Piper Duckles** (ASPET & APS), "Mentoring vs. Supervising," Carol Paronis (ASPET) "How to Delegate and Still Stay on Top of Things," **Virginia Miller** (APS) "Conflict Management or Managing Difficult Employees," and Stephanie Watts (ASPET & APS) "Developing a Budget." More than 100 young and more senior scientists attended the session, with many remaining for discussions during a breakout session of six groups. Each group was well represented by members of APS (**Carole Liedtke**) and ASPET (Carol Paronis, Michelle Kalis) and by members of the APS Women in Physiology Committee and ASPET Committee on Women in Pharmacology. Each attendee to the workshop received a handout of resource material for the topics discussed by the speakers. Comments after the session were very enthusiastic.

Plans for an APS/APSET Workshop on Balancing Life and Career at EB2006

APS Women in Physiology and ASPET Women in Pharmacology Committees will once again partner to

organize a mentoring workshop for EB 2006 in San Francisco, CA. APS will serve as the lead organization on this session. APS co-chairs D. Damon and A. Schreihofer will coordinate planning with ASPET representative Laura Nisenbaum. The focus of the workshop will be "Balancing Life and Career" with specific topics include balancing research, teaching, service activities, balancing job and family, and dual careers. The target audience is young scientists of both genders interested in learning skills for their future/current careers. The workshop also offers a venue for networking between junior and senior scientists.

Mentoring Program

An APS Mentoring Program directed toward young physiologists in training and to junior faculty has been in existence since 1993. Over the years the Committee and staff have tried many different formats and program components in an attempt to increase the utilization of the mentoring program by trainees. However, the number of trainees requesting a mentor through the program remained negligible (about seven per year). Members of the Committee agreed that the program was not successful in its current format and should be discontinued. Committee efforts will instead be put into refining the mentoring website to make it even more useful and interactive, since it has already been cited by a national publication as being an excellent resource for mentoring and receives a considerable number of hits each month.

Caroline tum Suden/Frances Hellebrandt Professional Opportunity Awards

The Women in Physiology Committee received 114 applications for the Caroline tum Suden/Frances Hellebrandt Professional Opportunity Awards. This number of applications is comparable to those received in the past few years. These awards provide monetary ($500) prizes and complimentary registration for graduate students and postdoctoral fellows of either gender who give presentations at the IUPS/EB meeting. The applications include an abstract submitted for presentation at IUPS/EB and a supporting letter from the applicant indicating the goals of his/her research project, his/her specific role in the project described in the abstract, and the reasons why he/she is deserving of the award. One awardee, who was also a Minority Travel Award recipient, declined the monetary award and requested a 37th awardee be named instead. The Committee agreed and the first alternate was named as a tum Suden Awardee, so that 37 awards were given this year. The Awardees were invited to attend the APS Business Meeting where they each received a certificate and a check for $500.

FASEB Excellence in Science Award

The Chair of the Women in Physiology Committee serves as the APS representative to the FASEB selection committee for this prestigious award that carries a $10,000 cash prize (supported by Eli Lilly and Company) and the opportunity to present a plenary talk at a FASEB-sponsored meeting. Competition is very rigorous for this award, and most nominees have extensive dossiers documenting their numerous contributions to research, education, service, and mentoring. Anita Roberts of the National Cancer Institute in Bethesda, MD was selected the winner of the 2005 award. The FASEB selection committee wanted to encourage more applications for this award and sent out a blast email notice for the 2006 award. They received a total of 137 nominations for the award, of which 103 complete nominations were reviewed. The Chair of the Women in Physiology Committee is precluded from coordinating a nomination because of the conflict of interest that this represents. However, the Committee will review the APS nominees and select one or two to actively encourage and assist in enhancing their nomination packets for the next round of competition.

Serving on APS Committees

The Women in Physiology Committee actively encourages women to be active members of the APS by, for example, serving on APS Committees. The Committee is particularly interested in those women who are elected within sections to leadership positions. The committee is delighted that this year Sue Barman joins two women currently serving on APS Council, Carole Liedtke and Helen Raybould. The Committee also commends Virginia Miller for her service as Councillor from 2002 to 2005. The committee also noted that Kim Barrett became the first woman to chair the Publications Committee and at least three sections are chaired by women. Committee members were encouraged to actively work with their APS Section representatives as nominations for APS committees depend on the APS Section representatives serving on the Committee of Committees.

Nominations for awards

The Women in Physiology Committee was pleased to note the selection of three women scientists for the 2005 Distinguished Lectureships. The Committee continues to identify women scientists to nominate for the prestigious Bowditch and Cannon Awards, along with other APS and FASEB awards.

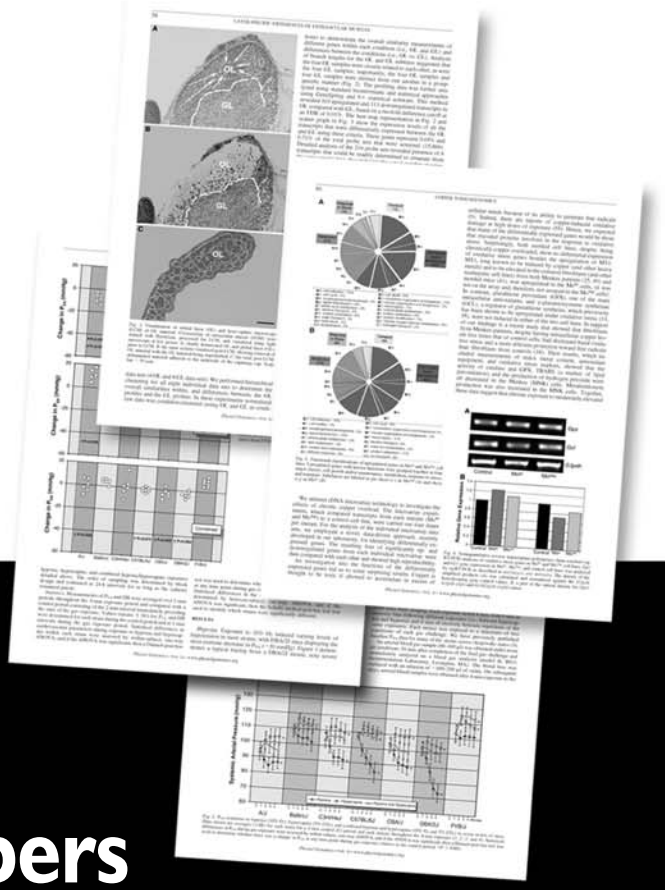
Other activities

The Women in Physiology Committee remains active through conference calls to identify ways to promote the advancement of women and young physiologists in APS, to engage in the identification of mentors and mentees, to encourage nomination of women for committees of APS and for APS and FASEB awards, and to select awardees for the Bodil Schmidt-Neilsen Distinguished Mentor and Scientist Award and Caroline tum Suden Opportunity Award.

Siribhinya Benyajati, Chair

Council accepted the report of the Women in Physiology Committee.

Council approved the funding for a lunch and lecture by the Bodil Schmidt-Nielsen Distinguished Mentor and Scientist Awardee at EB 2006.



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- AJP-Lung Cellular and Molecular Physiology
- AJP-Heart and Circulatory Physiology
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- AJP-Renal Physiology
- Advances in Physiology Education
- Journal of Applied Physiology
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Physiology InFocus
From Molecules to Organisms: Approaches to Systems and Integrative Physiology

Organized by: Douglas C. Eaton, Emory Univ. Medical School

Investigating Cellular Signaling with Atomic Force Microscopy Methods
Boris Mizaikoff and Douglas C. Eaton

Integrating Cellular Functions: The Role of the Primary Cilium in Cell Proliferation and Kidney Disease
Arlene Chapman and Winfield Sale

The Lipid in Lipid Rafts: Lipids as Signaling Molecules
He-Ping Ma

Integrating Acute Lung Injury and Regulation of Alveolar Fluid Clearance
David Guidot and Michael A. Matthay

Societal Lectures

Physiology in Perspective—The Walter B. Cannon Memorial Award
Jo Rae Wright, *Duke Univ. Medical Center*

Henry Pickering Bowditch Award
Ulrich Hans Von Andrian, *Harvard Medical School*

Walter C. Randall Lecture on Biomedical Ethics
Randall S. Prather, *Univ. of Missouri*

Microcirculatory Society Landis Award Lecture
TBA

Section Distinguished Lectureships

Robert M. Berne Distinguished Lectureship of the APS Cardiovascular Section
Thomas Hintze, *New York Medical College*

Hugh Davson Distinguished Lectureship of the APS Cell & Molecular Physiology Section
Michael J. Welsh, *Univ. of Iowa*

Joseph Erlanger Distinguished Lectureship of the APS Central Nervous System Section
Paul Sawchenko, *Salk Institute*

August Krogh Distinguished Lectureship of the APS Comparative & Evolutionary Physiology Section
Hiroko Nishimura, *Univ. of Tennessee HSC*

Solomon A. Berson Distinguished Lectureship of the APS Endocrinology & Metabolism Section
Richard N. Bergman, *USC School of Medicine*

Edward F. Adolph Distinguished Lectureship of the APS Environmental & Exercise Physiology Section
Frank Booth, *Univ. of Missouri, Columbia*

Horace W. Davenport Distinguished Lectureship of the APS Gastrointestinal & Liver Physiology Section
Kim E. Barrett, *Univ. of California, San Diego*

Carl Ludwig Distinguished Lectureship of the APS Neural Control & Autonomic Regulation Section
Gunnar Wallin, *Stockholm Univ.*

Carl W. Gottschalk Distinguished Lectureship of the APS Renal Section
Peter Igarashi, *UT-Southwestern Medical Center*

Julius H. Comroe, Jr. Distinguished Lectureship of the APS Respiration Section
Joe G.N. Garcia, *Univ. of Chicago Medical Center*

Claude Bernard Distinguished Lectureship of the APS Teaching of Physiology Section
Dee Silverthorn, *Univ. of Texas, Austin*

Ernest H. Starling Distinguished Lectureship of the APS Water & Electrolyte Homeostasis Section
TBA

Workshops and Special Symposia

Development and Maintenance of Epithelial Polarity
Ora Weisz and James Casanova

Graduate Student Highlights in Respiration Physiology
Troy Stevens and Ralph Fregosi

Ground-Floor Communications: Creating A Buzz About Science through Community and Constituency Outreach
Hannah Carey

Lipid Mediated Regulation of Membrane Transport
Mouhamed S. Awayda and James D. Stockand

Mastering the Juggling Act: Laboratory Life, and Leadership Roles
Ann Schreihofer, Deborah Damon and Laura Nisenbaum

Navigating the Interview: How to Make it Work for You
Nansie A. McHugh and William R. Galey

Publishing 101: Dos and Don'ts of Publishing in APS Journals
Kim E. Barrett

Refresher Course on Gender Differences in Physiology
Martha L. Blair

Transition from Postdoc to Jr. Faculty: Surviving the Initial Years
Rudy M. Ortiz and Ryan W. Bavis

Workshop on Atomic Force Microscopy for Physiological Studies at the Nano Scale
Gerald A. Meininger and Michael J. Davis

Workshop on Advanced Techniques in Imaging: From Cell to Animal
Janos Peti-Peterdi and P. Darwin Bell

Lipid Signalling Track

Symposia:

Lipid Mediated Regulation of Membrane Transport
Mouhamed S. Awayda and James D. Stockand

The Lipid in Lipid Rafts: Lipids as Signaling Molecules
He-Ping Ma

Featured Topics:

Lipid Signaling, Lipid Rafts and Epithelial Transport
Moshe Levi

Lipid Metabolism and Liver Inflammation
Jian Zhang

Obesity Track

Symposia:

Could Cell Dehydration Promote Obesity and Chronic Disease? A Multidisciplinary Look at the Effects of Hypertonic Dehydration
Jodi Stookey

HIV Lipodystrophy: Lessons from a Novel Metabolic Syndrome
Steven Grinspoon and Morris Schambelan

Melanocyte Stimulating Hormones and Their Receptors
Michael H. Humphreys

Obesity and Renal Disease
Lisa M. Harrison-Bernard

The Obesity Epidemic: A Historical Perspective
George A. Bray

Pancreas Development and Insulin Secretion
William W. Hay, Jr.

The Role of Glucose in Modulating Cell Function in the Cardiovascular System
John C. Chatham and Jennifer Hall

Featured Topics:

Control of Renal Function and Blood Pressure in Metabolic Syndrome and Diabetes
Michael W. Brands and Carolyn A. Ecelbarger

Regulation of Vascular Tone in Diabetes and Metabolic Syndrome
Johnathan D. Tune

Oxidative Stress

Symposia:

Linking Mitochondrial Function in Skeletal Muscle to Disease
P. Darrell Neufer and David Hood

Novel Partners and Mechanisms in Oxygen Sensing
Nanduri R. Prabhakar and Chris Peers

Featured Topics

Air Pollutants or Intracellular Messengers? Inorganic Signaling Molecules in Vascular Regulation
Charles W. Leffler

Cardiovascular Section Young Investigator Featured Topic: Molecular Regulation of eNOS Activity and Vascular Reactivity
Brett M. Mitchell

Mechanisms of Hypoxic Vasoconstriction
Michael J. Russell

NADPH Oxidase vs. Mitochondria: From Where do Vascular Reactive Oxygen Species Arise?
Michael Wolin

Physiologic Adaptations to Intermittent Hypoxic Exposure
Stephen Muza

Signaling Mechanisms Associated with Hypoxia
Paul Schumacker

Wiggers Award Featured Topic: Pivotal Role of Endothelium in Deranged Vascular Control
Paul Vanhoutte and Cuihua Zhang

Plasticity Track

Symposia:
Cellular and Molecular Signals Regulating Plasticity of Skeletal Muscle Fiber Type and Size
Martin F. Schneider and Karyn Esser
Molecular Characterization of Skeletal Muscle Plasticity in Nonmodel Organisms
Amanda Szucsik and Bryan Rourke
Neurovascular Interactions
Steven S. Segal
Oscillations and Rhythms in the Neural Control of the Circulation
Susan M. Barman and Michael J. Kenney
Spinal Interneurons: Underappreciated Players in Autonomic and Respiratory Regulation?
Ida J. Llewellyn-Smith and Lawrence P. Schramm

Featured Topics:
Activity-Dependent Plasticity in Central Homeostatic Systems
Javier Stern and Tamas Horvath
Developmental Changes in Respiratory Control in Neonatal Rodents
William K. Milsom
Disease and Plasticity in the Neural Control of Breathing
Francis Golder and David Fuller

Translational Research Track

Symposia:
Integrating Acute Lung Injury and Regulation of Alveolar Fluid Clearance
David Guidot and Michael A. Matthay
Bench to Bedside: Targeting Coagulation and Fibrinolysis in Acute Lung Injury
Lorraine B. Ware and Michael A. Matthay
A Comprehensive Stem Cell Research Update
Meredith Hawkins
Human Integrative Physiology: The Missing Link in Systems Biology?
Michael J. Joyner
Mechanism Based Neurotherapeutics for Osteoarticular Pain
Maren L Mahowald
New Treatment Strategies to Combat Heart Failure
David J. Lefer and Rong Tian
The Physiology of Performance: From Mechanisms to Application
David K. Spierer and Adrienne S. Zion

Featured Topics:
Autonomic Adjustments to Stress in Humans
Chester A. Ray
Clinical Disorders and Vasopressin
John R. Claybaugh
Control of Breathing: Exercise
Tony G. Babb
Gastric Inflammation and Cancer Genesis
Eric Sibley and Linda Samuelson

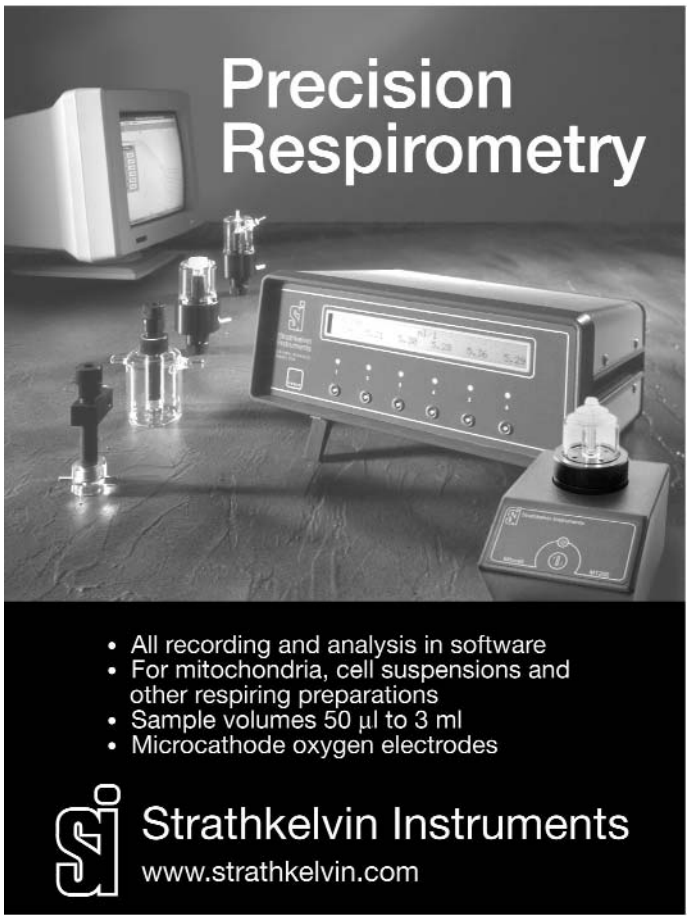
Additional Symposia

Advances in Ion Channel Physiology
William J. Martin
Aerobic Function in Aging Skeletal Muscle: From Molecular to Systemic Mechanisms
Harry B. Rossiter and Russell T. Hepple
Cell Signaling Underlying the Pathophysiology of Pneumonia
Jahar Bhattacharya and Jay Mizgerd
CO_2-H^+ Chemoreceptors: Where are They, What Do They Do?
Hubert V. Forster and Matt Hodges
Endothelial Permeability: Paracellular Pathway vs. Transcellular Pathway
Sarah Yuan and Jerry Breslin
The Hot Brain
Scott Montain
How Prepared are Your Students to Learn Physiology?
Howard Kutchai
Hyperpolarization-Activated HCN Pacemaker Channels: Role in the Brain, Heart, and Disease
Steven A. Siegelbaum
Hypothalamus-Brainstem: Modulation of the Cardiovascular Function
Jose Antunes-Rodrigues and Valeria Rettori
Innovative Technologies for Proteomic Approaches to Systems Biology
Andrew S. Greene
Integrating Mechanical, Electrical, Metabolic, and Signaling Events in Computer Modeling of the Heart
Daniel A. Beard and James B. Bassingthwaighte
Microcirculatory Society President's Symposium: Microcirculation: Unanswered Questions
Robert Hester
Molecular Mechanisms of Intestinal Iron Transport
James F. Collins and Bryan Mackenzie
Neuroendocrine Programming of the Respiratory Control System
Richard Kinkead and Vincent Joseph
New Insights into Ammonia Transport
I. David Weiner and Connie M. Westhoff
New Views of Endothelial Cell Mechanotransduction
Peter J. Butler and Roger Kamm
Physiological Effects of Ovarian Hormone Deficiency
Michael J. Toth and A. Tchernof
Physiological Genomics and the Gastrointestinal Tract
Ronaldo P. Ferraris and Anne E. Kwitek
Pathological Calcification: Crystallization, Infection or Cell Transdifferentiation
Virginia M. Miller and John Lieske
Protein-Protein Interactions in Epithelial Physiology
Neil A. Bradbury
Regulation of Cardiac Muscle Contraction
Kerry S. McDonald
Regulation of Glomerular Function by Podocytes
David Bates and Bill Deen

Regulation of Leukocyte Recruitment on Inflamed Endothelium
Scott I. Simon
The Role of Modern Biology and Medicine in Drug Development in Academia and Industry
Charles A. Blake and Kenneth L. Barker
Tubule Perfusion: 40 Years Old and Still Going Strong
Maurice Burg and Jeff M. Sands

Additional Featured Topics

Autonomic Motor Patterns and their Central Circuits
Robin McAllen
Donald J. Reis Memorial Trainee Symposium
David Busija and Milton Hamblin
Epithelial Ion Channels
Kenneth R. Hallows and Heather A. Drummond
Fibroblasts and Myofibroblasts: Function and Tissue Repair
Paul A. Insel
Functions of Gastrotransmitters in the Cardiovascular System
Ryan Dombkowski
Gender Differences in Renal and Cardiovascular Disease
Kathryn Sandberg
Junctional Regulation in Barrier Cells
Jahar Bhattacharya
Mechanotransduction and Lung Cells
Debra Quinn and Susan Margulies
Muscle Fatigue
Jean-Marc Renaud and Thomas M. Nosek
Myocardial Blood Flow Heterogeneity: A Response to Mechanical and Metabolic Drive
James B. Bassingthwaighte
Neural Control of Cardiovascular Function During Exercise
Loring Rowell
Physiological Genomics of Skeletal Muscle Adaptation in Health and Disease
Gustavo Nader
Physiology of Fibroblast Growth Factors
James B. Hoying
Renal Section Young Investigator Award
Sylvie Breton
Role of Epithelial Cells in Initiation and Propagation of Intestinal Inflammation
Didier Merlin
Subcellular Organization of Second Messenger Signaling
Troy Stevens
Undergraduate Skills: What Should Students Be Able to Do?
Dee Silverthorn
Xenobiotic Transporters
Ryan M. Pelis
Young Investigator Session Regulation of Cerebrovascular Function in Health and Disease
Fruzsina K. Johnson and William Durante



Postdoctoral Positions

Postdoctoral/Research Fellow Position: A postdoctoral scholar/ research fellow position is available immediately in the Cardiothoracic Surgery Research Laboratory at the University of Kentucky College of Medicine. The successful applicant will be studying in vivo ventricular function and myocardial ischemia-reperfusion injury. The applicant should have an MD or PhD in the biomedical sciences and documented experience in small animal (rat and/or mouse) surgery and cardiovascular measurements. Candidates that possess these skills as well as cellular/molecular laboratory experience will be given the highest priority. Salary is commensurate with experience according to NIH stipend levels. Applicants should submit an updated CV and the names of three references to: Dr. Robert D. Lasley, Department of Surgery, University of Kentucky College of Medicine, MN276 Chandler Med Center, 800 Rose Street, Lexington, KY 4536-0298; Email: rlasley@uky.edu. Email applications are preferred.

Postdoctoral Fellow: Renal Research Institute and Division of Nephrology at the New York Medical College, Valhalla, NY announces an opening for Postdoctoral Fellow MD/PhD position to investigate microvasculature using intravital videomicroscopy. Knowledge of imaging software is desirable. Renal Research Institute and Division of Nephrology at the New York Medical College, Valhalla, NY announces an opening for Postdoctoral Fellow MD/PhD position to investigate the proteome under various pathologic conditions. Basic knowledge in protein biochemistry, separation and mass spectroscopy is desirable. Email or fax resume only to: Michael S. Goligorsky, MD, michael_goligorsky@nymc.edu; 914-594-4732.

Postdoctoral Position: An NIH-funded postdoctoral position is available immediately at the Steele Children's Research Center at the University of Arizona Health Sciences Center in the laboratories of Fayez K. Ghishan, MD and Pawel R. Kiela, PhD. The qualified applicants will have a PhD, MD or DVM degree & experience in molecular biology, cell biology, immunology, biochemistry or related area. He/she will participate in studies related to molecular and cellular biology of intestinal Na+ and Pi transport in physiological and pathophysiological conditions, particularly as they relate to mucosal barrier integrity and inflammatory bowel disease. Competitive salary is dependent upon experience, attractive benefits package and tuition waiver offered. To apply, please submit CV and names of three references to Pawel R. Kiela, PhD, Pediatrics/PO Box 245073, 1501 N. Campbell Ave., Tucson, AZ 85724 or send to pkiela@peds.arizona.edu [EEO/AA/ M/W/D/V]

Postdoctoral Position: The Center for Molecular Medicine invites applications from highly motivated individuals to fill an available postdoctoral position. The Center for Molecular Medicine is comprised of an interdisciplinary group of scientists focused on investigating signaling mechanisms in cardiovascular disease. The center is housed in a new state-of-the-art research building and is supported by excellent core facilities in cell and molecular biology. The position is funded through a Center of Biomedical Research Excellence in Vascular Biology award from the National Institutes of Health. Individuals with backgrounds in cell and molecular biology, biochemistry and medical sciences are encouraged to apply. We are particularly interested in postgraduate students who do not have prior background in vascular biology but wish to pursue this area as a future field of endeavor. The current project will include the use of modern cell and molecular methods to analyze signaling pathways in dyslipidemic cardiomyopathy in in vivo, the isolated mouse heart, and in vitro approaches. Applicants should send their updated CV, the names and contact information of three references to: Ilka Pinz, PhD, Director MRI Facility, Maine Medical Center Research Institute, Center for Molecular Medicine, 81 Research Drive, Scarborough, ME 04074; Email: pinzi@mmc.org; Tel.: 207-885- 8280.

Postdoctoral Fellowship: A CIHR-funded position is available immediately at the St. Michael's Hospital, the University of Toronto in the laboratory of Arthur S. Slutsky. The qualified applicants will have a PhD, MD or DVM degree. Strong knowledge in lung physiology and mechanical ventilation is desirable. Experience in small animal surgery and related expertise are required. He/She will participate in studies related to ventilator-induced lung injury in physiological and pathophysiological conditions, particular as they relate to innate immunity. Competitive salary is dependent upon experience. To apply, please submit CV and names of three references to Tracy Klose via Email to Kloset@smh.toronto.on.ca.

Postdoctoral Position in Autonomic Regulation/Vestibular System: Postdoctoral Associate position available immediately in the Department of Otolaryngology of the University of Pittsburgh. Our research uses physiological and anatomical approaches to study vestibular influences on respiratory and cardiovascular control. An ideal candidate would have a background in intracellular and extracellular recording from brain stem neurons, or familiarity with neural control of respiration and/or circulation. Salary is commensurate with NIH-defined rates. If you are interested, please contact: Dr. Bill Yates, Department of Otolaryngology, University of Pittsburgh, Room 519 EEINS Bldg.,Pittsburgh, PA 15213; Email: byates@pitt.edu; Tel.: 412-647-9614; Fax: 412-647-0108. For more information: http://www.pitt.edu/~byates/yates.html.

Postdoctoral Position: An NIH-funded Postdoctoral Position is available immediately in the laboratory of Dr. Mary Townsley for a highly motivated individual to study integrative

lung endothelial cell biology in animal models. The laboratory is currently funded for research focusing on the role of transient receptor potential channels in acute lung injury, with a particular emphasis on the relationship between endothelial injury "finger prints" and the expression pattern of these channel proteins. Interested individuals with the PhD, MD and/or DVM degree should send their curriculum vitae and names and addresses of three references to: Mary I. Townsley, PhD, Professor of Physiology, Center for Lung Biology, MSB 3074, University of South Alabama, Mobile, AL 36688 or via Email: mtownsley@usouthal.edu. While experience in endothelial cell biology is preferred, individuals with backgrounds in related areas of biomedical research are encouraged to apply; experience with small animal surgery is a plus. The successful applicant will join a vibrant research community in Physiology and the Center for Lung Biology at the University of South Alabama (website: http://www.southalabama.edu/clb/).

Postdoctoral Research Fellowship Position. A postdoctoral research fellowship position (1-2 years) is available in the Department of Nutrition, University of California, Davis to support research in obesity and type 2 diabetes. The research focuses on the role of adipocyte metabolism, adipocyte hormone production, tissue lipid accumulation, and energy balance in the development of insulin resistance and diabetes in rat models of insulin resistance and type 2 diabetes. Ability to work both independently and cooperatively within a team is essential. Required: A doctoral degree in endocrinology, genetics, physiology, nutrition or a related field; exceptional laboratory and written communication skills. Desirable: Research experience with laboratory rodents, particularly experience with catheter placement and performing infusions and blood collections in chronically catheterized conscious rats. Helpful: Experience with basic molecular biology techniques such as PCR, cloning of DNA fragments into reporter gene vectors, transfecting cell lines with promoter constructs, and reporter gene assays. Salary is commensurate with experience according to NIH stipend levels; applicant must be a US citizen or legal resident. Send cover letter and curriculum vitae to: Dr. Peter J. Havel, Department of Nutrition, University of California, One Shields Avenue. Davis, CA 95616; pjhavel@ucdavis.edu; Tel.: 530-754-8093 #5; Fax: 530-752-1297. [AA/EOE]

Faculty Positions

Assistant/Associate Professor: The Center for the Study of Health Effects of Exercise in Children in the Department of Pediatrics at the University of California, Irvine (UCI) is seeking to recruit a research investigator in the in-residence series. The level will be at the Assistant or Associate level, commensurate with experience. The successful candidate must have an MD or MD/PhD and be capable of conducting independent research broadly focused on the mechanisms of health effects of exercise in the context of the growing child. Experience in clinical pediatrics as well as dealing with infants or children in research projects focused on obesity, exercise, exercise training and fitness and their relationship to growth and development and the presence of pediatric diseases like asthma, diabetes or arthritis is necessary. A proven track record of original publications in this field is a prerequisite. Teaching responsibilities will include formal participation in exercise physiology and practice courses and lecture series aimed at UCI undergraduates, medical students and postdoctoral fellows. In addition, the candidate will be expected to be familiar with bedside and outpatient teaching of pediatric residents in the area of clinical exercise. Clinical duties will include evaluation and treatment of children and adolescents with sports or exercise related injuries and conditions and developing protocols for pre-participation sports physicals. This position is located at UCI Medical Center, the only full-service academic hospital in an extended geographic region and serves a large patient base. It is located in thriving Southern California, which offers divers cultural and recreational opportunities. Interested candidates should send their curriculum vitae and three references to: Dan M. Cooper, MD, Professor and Search Chairman, Department of Pediatrics, 101 The City Drive, Bldg. 25, 2nd Floor, Orange, CA 92868; Email: dcooper@uci.edu. [AA/EOE]

Faculty Position: The Department of Veterinary Physiology and Pharmacology, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University, announces the availability of a tenure-track faculty position in the area of cardiovascular endocrinology. A strong research program and evidence of a commitment to excellence in teaching is required. An overview of our rapidly expanding signature programs and additional faculty employment opportunities may be reviewed at http://www.cvm.tamu.edu/facultyrec. Candidates should send curriculum vitae, letter of application, and names and addresses of three references to: Glen A. Laine, Wiseman-Lewie-Worth Chair in Cardiology, Director, Michael E. DeBakey Institute, Professor & Head, Physiology & Pharmacology, Texas A&M University, College Station, TX 77843-4466; Tel: 979-845-7261; Fax: 979-845-6544; Email: glaine@tamu.edu [AA/EOE]

Instructor Position: The Department of Biological Sciences at Idaho State University (http://www.isu.edu/departments/bios) invites applications for a non-tenure track assistant lecturer position in anatomy and physiology. Responsibilities include: teaching anatomy and physiology laboratories for health professions students, maintaining and ordering supplies and equipment, preparing weekly laboratory set-ups, assisting faculty in the design of laboratory exercises and the training of graduate teaching assistants. Live animals and human cadavers are used in the laboratories. A Master's degree is required. Salary is commensurate with training and experience. Review of candidates will

begin July 15, 2005 and continue until filled. To apply, send cover letter, curriculum vitae, statement of teaching philosophy, description of teaching experience and contact information for three references, to Chair, Anatomy & Physiology Search Committee, Department of Biological Sciences, ISU, Pocatello, ID, USA, 83209-8007. [AA/EOE]

Assistant Professor, Cardiovascular Physiology: The Department of Physiology and Biophysics at Dalhousie University invites applications for a position at the Assistant Professor level available for the 2006 academic year. Qualified candidates will have demonstrated research expertise in Cardiovascular physiology, with an emphasis on molecular or cellular research in cardiovascular disease, ischemia/reperfusion injury or stroke, or gene-based approaches to cardiovascular repair. Applicants must have a PhD and/or MD degree, several years of postdoctoral training, excellent communication skills, and a strong record of peer-reviewed publications. The successful candidate will be expected to develop active and synergistic research collaborations with other cardiovascular researchers in both the basic science and clinical departments of the Faculty of Medicine. The candidate is expected to develop an extramurally extramurally funded research program and to participate in the teaching mission of the Department. This is a salaried, probationary tenure-track appointment; however, the candidate will be expected to apply for external salary support from appropriate granting agencies. Send letter of application, curriculum vitae, brief description of research experience and interests, teaching experience, and the names of at least three references to: Dr. Paul R. Murphy, Head, Department of Physiology and Biophysics, Faculty of Medicine, Dalhousie University, Sir Charles Tupper Medical Building, 5850 College Street, Halifax, Nova Scotia B3H 1X5, Canada. Review of applications will begin October 1, 2005 and will continue until the position is filled. All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority. The University encourages applications from qualified Aboriginal people, persons with a disability, racially visible persons and women. [AA/EOE]

Faculty Position: The UNC Kidney Center and Department of Cell and Molecular Physiology in the School of Medicine invite applications for a tenure-track faculty position (rank dependent on qualifications). We seek candidates using novel approaches to study renal physiology with interests in vascular biology and/or pathophysiology such as diabetes or hypertension. However, outstanding candidates in related areas will be considered. An attractive start-up package and new space are available. Faculty members are expected to develop and maintain a strong externally-funded research program and contribute to teaching of graduate and medical students. Applicants must hold a doctoral degree with at least two years postdoctoral training. Closing date for first consideration: **October 1, 2005**. Please submit the names of four potential references, and Email your curriculum vitae and a statement of your proposed research program and career goals to: William J. Arendshorst, PhD, Chair, Renal Search, Department of Cell and Molecular Physiology, 6341 Medical Biomolecular Research Building, CB # 7545, School of Medicine, The University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-7545; Email: physiology-renalsearch@med.unc.edu; http://www.med.unc.edu/physiology. [AA/EOE]

Associate/Full Professor: The Cardiovascular Division of the Department of Medicine at the University of Mississippi Medical Center is seeking candidates for the Patrick H. Lehan Professor of Cardiovascular Research. Applicants should be accomplished investigators (MD or MD/PhD) at the associate or full professor rank with current or recent federal grant support and a successful track record of basic or translational cardiovascular research. Candidates must be willing and able to provide leadership and research mentoring for junior faculty and fellows in the Cardiovascular Division. The Medical Center is Mississippi's only academic health sciences center. Located on 164 acres in Jackson, the state capital, the institution has four teaching hospitals: The University Hospital, the Winfred L. Wiser Hospital for Women and Infants, Blair E. Batson Hospital for Children, and the Wallace Conerly Hospital for Critical Care. The Center for Excellence in Cardiovascular-Renal Research provides extensive opportunity to collaborate with more than 65 cardiovascular researchers and clinicians. When expansion is complete in 2007, the Arthur C. Guyton Laboratory Research Building will provide more than 180,000 square-feet of state-of-the-art labora-

Bowditch Award Lecture

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

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

tory space, including a large animal care facility. There is also an opportunity to collaborate with investigators from the Jackson Heart Study, an epidemiological study of cardiovascular disease in more than 5,000 African-Americans. A 100,000 square-feet Heart and Vascular Center, opening in early 2007, will house modern cardiac catheterization and EP laboratories, noninvasive testing facilities, including cardiac MR, clinic and academic and teaching space. Jackson's quality of life remains one of the South's best-kept secrets. It provides a wide array of cultural events, excellent educational programs with three liberal arts colleges and a state university, a mild climate throughout the year in which to enjoy boating and other recreational activities, and convenient air connections from an international airport located 20 minutes from the campus. Interested individuals may send their CVs to Michael Winniford, MD, Cardiovascular Division, University of Mississippi Medical Center, 2500 North State Street, Jackson, MS 39216-4505; Email: mwinniford@medicine.umsmed.edu.
[AA/EOE/M/F/D/V]

Research Instructor/Assistant Professor: The Division of Exercise Physiology, West Virginia University School of Medicine invites applications for a Research Instructor/Research Assistant Professor in molecular biology. The rank of the appointment will depend on the candidate's experience. Applicants must hold a PhD, MD/PhD or equivalent, and have postdoctoral training in molecular/cell biology. Candidates who use modern cell/molecular tools addressing physiological questions in muscle biology are especially encouraged to apply. The successful candidate will supervise doctoral students and engage in NIH funded research in apoptosis and sarcopenia/muscle atrophy. Preference will be given to applicants who have experience in mentoring graduate students and/or postdoctoral fellows and have research experience and a publication record using basic molecular biology approaches in vivo and in vitro in cardiac, smooth or skeletal muscle. A more detailed description can be found at http://www.hsc.wvu.edu/som/ep/. Qualified individuals should submit a complete curriculum vitae, a brief description of research interests, and the names, addresses (including Email), and phone numbers of three references to: Stephen E. Alway, PhD, Professor and Chair, Division of Exercise Physiology, West Virginia University School of Medicine, Robert C. Byrd Health Sciences Center, P.O. Box 9227, Morgantown, WV 26506-9227. Submission of materials in the form of electronic documents is strongly encouraged. Please send to salway@hsc.wvu.edu and lstankos@hsc.wvu.edu. Review of applications will begin September 1, 2005, and continue until the position is filled. [AA/EOE]

Director of Molecular Genetics: The Masonic Medical Research Laboratory, a not-for-profit independent basic biomedical research institute located at the foothills of the Adirondack Mountains in upstate New York, invites applications for an individual to head its Department of Molecular Genetics. Position is at a rank equivalent to Associate or Full Professor. PhD and/or MD candidates with experience and interest in genetic and molecular aspects of the electrical function of the heart will be given strong preference. The Masonic Medical Research Laboratory has assembled one of the most complete teams of investigators worldwide to tackle the problem of cardiac arrhythmias responsible for sudden cardiac death in infants, children and young adults. Spacious state-of-the art laboratory facilities are available in our newly constructed Molecular Biology/Genetics Wing. A distinguished record of scientific achievement and a solid track record of extramural grant support are a must. Please send curriculum vitae and three references to Dr. Charles Antzelevitch: ca@mmrl.edu. Date Available: August 1, 2005.

Assistant Professor–Integrative Physiologist: The Department of Physiological Science (http://www.physci.ucla.edu) at UCLA invites applications for a tenure-track faculty position at the level of Assistant Professor (or under exceptional circumstances at a higher level). Applicants should have postdoctoral experience and a record of creative and significant research in any area of physiology. Integrative physiology involves understanding function at multiple levels, such as molecular, genetic, cellular, systems, and organismic. The successful candidate will be expected to participate in undergraduate and graduate teaching and to establish a vigorous, externally funded research program. Applicants should

Physiology in Perspective

Walter B. Cannon Memorial Lecture

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

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

submit a curriculum vitae with a description of research plans, reprints or preprints of key publications and have three letters of recommendation sent by **October 1, 2005** to: David Glanzman, Chair of the Search Committee, Department of Physiological Science, UCLA, Box 951606, Los Angeles, CA 90095-1606. [AA/EOE]

Assistant/Associate Professor, Pharmacology: The Department of Pharmaceutical Sciences at North Dakota State University invites applications for two (2) tenure-track faculty positions at the rank of Assistant/Associate Professor, with appointment beginning on or after January 1, 2006. Candidates must hold a doctoral degree in pharmacology, physiology, or closely related field, have at least two years of postdoctoral experience with a strong record of scholarship, and possess good interpersonal skills and effective written and oral communication skills. Preference will be given to applicants with training and research expertise in areas that complement existing departmental strengths in cancer, cardiovascular, and neuropharmacology. Successful candidates will be expected to establish an externally funded research program, teach and mentor graduate students, and participate in team-taught pharmacology courses offered to pharmacy students. A highly competitive salary and a start-up package commensurate with qualifications and experience are available. The Department participates in a NIH-funded ($8.2 million) Center of Biomedical Research Excellence. Additional information about the Department and University can be obtained at http://www.ndsu.edu/pharmsci/. Application deadline is **September 15, 2005**, or thereafter until the position is filled. Submit curriculum vitae, statement of teaching philosophy, description of research interests and future plans, and three letters of reference to: Stephen O'Rourke, PhD (Email: Stephen.Orourke@ndsu.edu), College of Pharmacy, North Dakota State University, Fargo, ND 58105.

Chair, Department of Pharmacology and Physiology: Drexel University College of Medicine (formerly MCP-Hahnemann University) invites applications and nominations for the position of Professor and Chair of the Department of Pharmacology and Physiology (http://www.drexel.edu/med/pharmacology_physiology/). The department has primary teaching responsibility for teaching Pharmacology and Physiology to medical students. The department has 16 faculty and a flourishing PhD graduate program. Current major research strengths are in cell signaling and neuropharmacology. We are seeking an individual with leadership and administrative skills and a distinguished record of research accomplishments whose interests will complement existing strengths in the College of Medicine and University. The major responsibilities of the Chair are: *1*) to promote the scholarly development of the faculty and students in the department; *2*) to provide leadership in creating and implementing a vision to enhance existing and build new programs; and *3*) to oversee teaching and research within the department. The Chair will work closely with other Chairs and senior leadership of the College to promote excellence in all missions. Resources will be made available for the recruitment of additional faculty. Drexel University College of Medicine is the nation's largest private medical school. The Department of Pharmacology and Physiology is conveniently located in Center City Philadelphia and offers a collegial and stimulating environment with many opportunities for collaboration. Drexel University has 17,000 students and more than 1,300 faculty members. Drexel's annual budget exceeds $500 million, and the university is among the top 100 universities in federal grant and contract expenditures. Applicants should provide a letter of application, curriculum vitae, and names of three references via email to hhaberle@drexelmed.edu or by mail to: Jane Clifford, PhD, Chair, Search Committee, Chair, Dept. of Biochemistry and Molecular Biology, 245 N. 15th Street, M.S. 497, Philadelphia, PA 19102. [AA/EOE]

Associate Professor or Professor: A senior level faculty position (Associate Professor or Professor with tenure at Penn State University College of Medicine) is available to strengthen and complement existing Neuroscience and Cardiovascular research. The candidate will have a joint appointment in the Department of Anesthesiology and newly established Heart & Vascular Institute. Current research strengths include neural control of circulation, regulation of sympathetic nervous system during heart failure and hypertension, neuronal ion channel function, and synaptic transmission. The candidate must have an outstanding record of research accomplishments, as documented by publications in leading peer-reviewed basic science journals and active NIH funding. Specific areas of emphasis include, but are not limited, to interaction between cardiovascular and nervous systems employing approaches of ion channel biochemistry, molecular biology, and signal transduction. The successful applicant will be provided with a generous package including competitive salary and start-up funds and ample laboratory space. The candidate will be expected to establish an externally funded research program and actively collaborate with other basic and clinical investigators. Applicants should send curriculum vitae, a statement of research interests, and three representative publications to: Dr. Hui-Lin Pan, Department of Anesthesiology (H187), Penn State College of Medicine, Hershey, PA 17033; Email: kbowman@psu.edu.

Research Assistant Professor: A research faculty position is available immediately at the Steele Children's Research Center at the University of Arizona Health Sciences Center in the laboratories of Fayez K. Ghishan, MD and Pawel R. Kiela, PhD. The qualified applicants will have a PhD or MD degree. Candidate for this position will study the transcriptional mechanisms of regulation of intestinal transport genes related to nutrient absorption and metabolism in physiological and pathophysiological states. Competitive salary is dependent upon experience, attractive benefits package and

tuition waiver offered. To apply, please submit CV to Pawel R. Kiela, PhD, Pediatrics/PO Box 245073, 1501 N. Campbell Ave., Tucson, AZ 85724 or send to pkiela@peds.arizona.edu. [EEO/AA/M/W/D/V]

Assistant/Associate Professor: The Department of Pharmaceutical, Social and Administrative Sciences, McWhorter School of Pharmacy at Samford University, Birmingham, Alabama, invites applications for a full-time, 12-month, tenure-track appointment in the Department of Pharmaceutical, Social and Administrative Sciences at the rank of assistant or associate professor. Qualified applicants will have a PhD in pharmacology, physiology, biochemistry or related field. Preference will be given to candidates who have a degree in pharmacy and have a record of high-quality, innovative teaching in a biomedical discipline. The successful candidate will serve as part of a multidisciplinary team with responsibilities for teaching in the pharmacology, physiology, and/or biochemistry courses to Pharm.D. students. Candidates should exhibit outstanding verbal and written communication and interpersonal skills, dedication to student-centered education and a commitment to the Christian mission of the University. Candidates should be proficient in contemporary basic sciences research methodologies which will complement the overall research initiative of the department. Samford University, a comprehensive, private institution located on a beautiful campus five miles south of the Birmingham city center, offers rigorous academic programs firmly grounded in the context of a Christian community. *US News & World Report, Peterson's Competitive Colleges* and *John H. Templeton Foundation's* solid ratings reflect the reputation and vitality of the University. The McWhorter School of Pharmacy has approximately 2500 sq. ft. of newly renovated, state-of-the-art research laboratory space. Research interests of the department include drug formulation and delivery, synthetic medicinal chemistry, pharmaceutical analysis, signal transduction, pharmacogenomics, and immunology. For further information, please visit our web site at http://www.samford.edu/schools/pharmacy.html. The position is available immediately**.** Review of applications will continue until the position is filled. Rank and salary are commensurate with experience and qualifications. Applicants should submit a letter of application, a curriculum vita, one-page summaries of both teaching philosophy and research interests, and three letters of reference to: Dr. Bruce Waldrop, Chair, Search Committee, Department of Pharmaceutical, Social and Administrative Sciences, McWhorter School of Pharmacy, Samford University, 800 Lakeshore Drive, Birmingham, AL 35229; Tel.: 205-726-2984; Email: bawaldro@samford.edu. [AA/EOE]

Research Positions

Physician or Science Administrator: Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute ($62,886 to $114,882). Respiratory Sciences, Airways Diseases Program, Division of Lung Diseases, is seeking an experienced pulmonary researcher, expert in cell/molecular biology, physiology, biochemistry, or clinical trials to provide scientific support in the management and development of our extramural grant program in chronic obstructive pulmonary disease. The candidate selected will provide leadership for established national programs of airways disease and creativity in the development of new programs in his/her area of expertise. While the primary interest will be chronic obstructive pulmonary disease, other program areas to which the candidate may contribute include asthma, cystic fibrosis, genetics, respiratory neurobiology and sleep. Candidates must have an MD, PhD or equivalent, be an experienced, creative research scientist, have demonstrated ability to work effectively with others, and desire to pursue a research administrative non-laboratory career track. The applicant must demonstrate research experience in at least one of the following: cellular and molecular biology; immunology, genetics; pharmacology, clinical trials and respiratory diseases research. The required knowledge, skills, and abilities (KSAs) are: *1*) Scientific knowledge and research expertise in any of the following: cellular and molecular biology; immunology, genetics; pharmacology, clinical trials and respiratory diseases research; *2*) Ability to initiate and manage an independent scientific research project; *3*) Ability to communicate orally and in writing with co-workers and those outside the organization; *4*) Ability to lead individuals/groups to accomplish a project. Benefits: Appointment will be made at GS-12/13/14 grade level depending on qualifications. A Physician Comparability Allowance may be paid up to $30,000 per year. In addition, a recruitment bonus may also be considered. Excellent health, life, investment, and personal leave benefits. Selective Factors: US citizenship is required. For the basic qualification requirements, refer to the NIH guidance for Health Scientist Administrators or Medical Officers.

Research Associate III: Baxter International Inc. assists healthcare professionals and their patients with the treatment of complex medical conditions, including cancer, hemophilia, immune disorders, kidney disease and trauma. The company applies its expertise in medical devices, pharmaceuticals and biotechnology to make a meaningful difference in patients' lives. The Research Associate III is responsible for directing safety pharmacology and toxicology studies in compliance with FDA/GLP regulations. The incumbent will be responsible for generating and reviewing original data and preparing and reviewing protocols and reports in support of medical product research and development, and maintain laboratory in compliance with FDA/GLP regulations. The successfully candidate must have a MS degree in animal/human physiology or related field, or a BS degree in biology with 5 years of industry experience. DVM candidates will also be considered. Experience in industry is

preferred but not required. Candidates who have experience in working with physiological instrumentation and who are aware of GLP requirements are favored. Candidates must have the ability to work independently with minimal supervision, have strong trouble-shooting and problem solving skills, and be able to work well with multi-cross-functional project teams in a fast-pace environment. Outstanding written and verbal communication skills are required. For more information and to apply, please visit our website at http://www.baxter.com and search by the following keyword: 16236BR. Or, send your resume by Email to: connie_weeks@baxter.com. [EOE]

Research Scientist: Guidant Corporation researches, manufactures and markets systems for cardiac rhythm management, vascular intervention and cardiac/vascular surgery worldwide. Our mission is to provide innovative, therapeutic medical solutions of distinctive value for our customers, patients and health care systems around the world. We currently have openings for several high-potential Research Scientists. The Research Scientist is responsible for the initiation, design, development, execution, and implementation of scientific research projects. The candidate should have experience conducting pre-clinical and/or clinical studies. Experience authoring scientific publications and presenting scientific work at conferences is required. The ideal candidate will have: a strong background in experimental/applied systems physiology, specifically cardiovascular, exercise, and/or endocrine knowledge of geriatric physiology and physiology of disease a demonstrated record of organizing and executing research activities. **Key Responsibilities**: Investigates the feasibility of applying scientific principles and concepts to potential technologies, materials, processes and products. Plans and executes laboratory research to prove feasibility of concepts. Maintains substantial knowledge of state-of-the-art principles and theories and contributes to scientific literature and conferences. Participates in development of intellectual property. **Preferred qualifications:** PhD or MS in Physiology or related disciplines. Guidant offers an environment of market leadership, product innovation and personal growth, plus excellent benefits, including medical, dental, vision and life insurance, short and long-term disability, paid vacations and holidays, 401(k), retirement ESOP, annual bonus, paid year-end shut down, and tuition reimbursement. If you are seeking to join a successful and professional organization that will enable to you make an impact in the medical device industry, please visit our website at http://www.guidant.com for a complete list of opportunities and apply on-line. Reference job posting #27733.

Laboratory Research Professional: The University of Mississippi Medical Center in Jackson has an immediate opening in the Department of Neurosurgery. Minimum of bachelor's degrees in science required, master's or postdoc preferred with some electrophysiology experience. UMC offers competitive salaries, excellent benefits, and career growth opportunities in a rewarding, learning environment. Interested candidates may call 601-984-6490 or Email: rnichols2@umsmed.edu for further information. [EOE/AA/M/F/D/V]

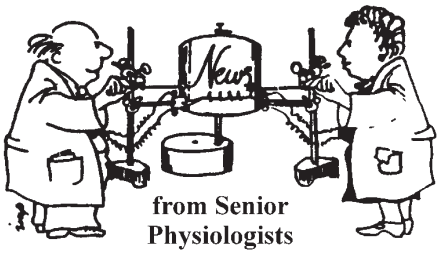
Research Associate: The Maine Medical Center Research Institute is a growing, biomedical research facility located in the greater Portland, ME area. We are seeking a research associate for a full-time, permanent position in our Transgenic and Magnetic Resonance Imaging (MRI) Facility. Research duties will include maintenance of mouse transgenic strains and MRI imaging of these strains. This individual will be responsible for performing basic MRI experiments, data analysis, and assisting in developing new MRI protocols. Experience in LINUX or SUN systems is considered a plus. We welcome applications from highly motivated, independent individuals. Please send cover letter, resume, and contact information of three professional references to: Ilka Pinz, PhD, Director MRI Facility, Maine Medical Center Research Institute, Center for Molecular Medicine, 81 Research Drive, Scarborough, ME 04074; Email: pinzi@mmc.org.

Scientist/Sr. Scientist: At GlaxoSmithKline, King of Prussia, PA, scientists in Research and Development are committed to capturing this moment. They bring to it their own very considerable abilities, the resources of a parent company devoted to the scientific enterprise, and the urgency of knowing that their highest purpose is the relief of human suffering. In pursuit of this purpose, they desire to make of GlaxoSmithKline a magnet for others who share their talents, whether as prospective corporate colleagues or as collaborators in industry, academe, and government. Minimum Requirements: BS with minimum of 5 years experience or MS degree in Pharmacological, Physiology or Neuroscience with experience in industrial (R&D) or academic research. Background in the effects of drugs on the Central and Peripheral Nervous system and/or, Diseases/pathophysiologies associated with the respiratory tract. Working knowledge of pharmacology and physiology and experience with electrophysiological recording techniques at the single cell, isolated tissue or whole organism level. Ability to work with others in a team environment. Written & oral communication skills are required. Details: The Target Validation group in the Respiratory and Center of Excellence for Drug Discovery is seeking a scientist to play a key role in validating neuronal targets for potential new therapies to treat Respiratory Diseases. The candidate will join a team of scientists in exploratory work aimed at identify and validating novel targets to treat respiratory diseases. Experience with working with animals is desired, preferably in animal models of disease. GlaxoSmithKline is dedicated to an innovative workplace and supports you with career long opportunities and learning. We offer a competitive benefits and compensation package designed to attract and retain the very best. We offer a com-

petitive total compensation package as well as an environment conducive to personal and professional growth. No agency referrals please. For confidential consideration and efficient processing, please apply online at: http://careers.peopleclick.com/client_gsk/BU1/EXTERNAL1931/newcandidate.asp?Source=APS&JobID=28394. Please Only Apply Through This Link. [AA/EOE/ M/F/D/V]

Clinical or Basic Scientists: The Kidney Disease Center and Department of Medicine of the Medical College of Wisconsin seeks to recruit two (2) Clinical or Basic scientists interested in developing research programs studying: *1*) the cell biology of glomerular and tubular cells in renal diseases or *2*) mechanisms of hypertension and diabetic nephropathy, transplant rejection, polycystic kidney disease, renal stones or acute renal failure using genomic, expression array and proteomic techniques or knockout mouse model systems. Candidates with an MD, MD/PhD, or PhD are encouraged to apply. The successful candidate will be provided with an excellent startup package including salary, laboratory space, equipment and access to core imaging, histology and animal research facilities. MD candidates should be able to participate in the patient care mission of the Division of Nephrology and/or Medicine and have research training appropriate for developing an independent laboratory. PhD applicants should be beyond the postdoctoral level. Appointments can be made at the Assistant, Associate or Professor level depending on the experience of the candidate. The position requires US citizenship or an immigrant visa. Interested candidates should submit their Curriculum Vitae to: Richard J Roman, Director of the Kidney Disease Center, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226; Tel.: 414-456-8723; Fax: 414 456-6546; Email: rroman@mcw.edu. [EEO/AA M/F/D/V]

Senior Physiologists' News



Letter to Beverly Bishop

G. Edgar Folk writes: "A pleasant assignment for those of us who turn 90 years of age is to look back on the years as a physiologist. Thank you, Beverly, for your birthday message.

"It is easy for me to summarize my daily activity. I am doing the same things each day that I did 20 years ago, including: *1*) writing book chapters, technical papers, and research grants, *2*) joint-mentoring graduate students, and *3*) giving occasional seminars. I am exceptionally fortunate in having an office and a laboratory in the warm intellectual climate of the Department of Physiology and Biophysics at the College of Medicine of the University of Iowa.

"Concerning the past bench work, I am content with our carefully controlled experiments on biological clocks, some of which were done on human subjects. Then, I accepted the opportunity to maintain a laboratory unit at the Naval Arctic Research Laboratory at Point Barrow, an arrangement which lasted 16 years. Among other findings, we proved by radio telemetry that three species of bears do hibernate.

"My past mentoring of students resulted in 19 PhD degrees and six Masters. My present co-sponsorship of graduate students is confined to weekly consultative meetings, encouragement, and letters of recommendation; the students' origins are especially interesting: one is from Japan, one from South Korea, and one from Spain.

"The American Physiological Society gave me credit for "Defining Environmental Physiology." It happened this way. At the Harvard Fatigue Laboratory, I discussed the name of an advanced course with Per Scholander. He was developing plans for his research ship, The Alpha Helix; he called his discipline 'Exploration Physiology.' I decided the term, 'Environmental Physiology,' would be better suited for medical school appointments. I noted that after my book, the first textbook on Environmental Physiology, there followed a rash of eight books on the subject. Others followed; the latest is from the Laboratory of Environmental Physiology at Duke University.

"It is traditional in these letters to give advice to young, potential scientists: I am asked 'shall I go into experimental physiology for a life's work?' My answer is: 'If you ask the question, don't go into the field.' Only go to that occupation if you can't keep away from it. That is, if you can't resist the attraction.

"I am pleased to express appreciation to the following sponsors who made my life of science possible: John Welsh, D.B. Dill, Harwood Belding, William Forbes, Donald Griffin, Adrian Hogben, Robert Fellows, and Kevin Campbell. And what an honor to be a member of the American Physiological Society."

Letter to Alan F. Hoffman

Gerhard Malnic writes: "Thank you for your invitation to write about my life at the opportunity of reaching the age of 70, which I did in September 2003. I am answering your kind letter only now stimulated by reading the section on Senior Physiologists' News in *The Physiologist*. Here in Brazil, reaching 70 leads to mandatory retirement, but my Department invited me to continue working in my laboratory, which I was very happy to do. The Brazilian Senate has passed recently a law to allow people in the Universi-

ties to retire only at 75, which still has to be approved by Congress (equivalent to the American House of Representatives), which however will not reach me. But it is also very good to go on with laboratory work without worrying about teaching and administration. I still have two graduate students working for their PhD, which should finish their work this year (2005). Then there are a few younger colleagues with their students in our group, which creates an attractive environment. It is also stimulating to be able to follow the work of my younger daughter, Bettina, who works in Biochemistry at our University, and is struggling to establish herself as a good scientist. Although she has to cope with a lot of competition, I believe that the life of a scientist these days is easier than during the days when I started a lab, since support for Science has improved a lot since then in Brazil, particularly in the State of Sao Paulo, where we have an efficient supporting agency. Bettina did her post-doc training with Linda Buck at Harvard, last year's Nobelist in Physiology, and was invited by her to come to the ceremony in Stockholm, obviously a very exciting occasion.

"I am working presently in two areas, one of them renal in vivo micropuncture and microperfusion to investigate mechanisms of potassium and hydrogen excretion, an area which I started during my post-doc in the early sixties of last century (!) with Gerhard Giebisch at Cornell in New York and later at Yale. This collaboration is going on, and last year I spent some time at Yale to study potassium excretion in Romk (a potassium channel) knock-out mice, which was possible due to my experience with in vivo studies, which not so many physiologists are doing today, as very well analysed by **Allen Cowley** in the present issue of *The Physiologist*. The other area concerns studies on intracellular pH regulation in cells in culture, using fluorescence microscopy, which we have installed in the last years in our lab, with my long-time collaborator Margarida de Mello-Aires. So, as long as health permits, I plan to still have a few years of productive work, passing along some of my experience to a younger generation. At the same time, enjoying life with my wife Margit and our dog, we spend some time at our little beach cottage near Sao Paulo, especially when my older daughter Beatriz, a fine music teacher and performer, who lives in southern Florida, visits us with her two daughters, our grandchildren."

Peter J. Cohen writes: "I received my MD from Columbia University College of Physicians and Surgeons in 1960 and JD from the Georgetown University Law Center in 1995. During my medical career, I was professor and chair of anesthesiology at the Universities of Colorado and Michigan. During my career in academic anesthesiology, I authored several books and over 100 articles describing my basic and clinical scientific research (cerebral blood flow and metabolism, effects of anesthetics on mitochondrial respiration, clinical investigations of new anesthetics and analgesics). More recently, I co-edited (with Thomas E. J. Healy) *A Practice of Anaesthesia*, Edward Arnold, London (1995).

"In 1992, I left academic anesthesiology to pursue a new career in law. After receiving my law degree, I worked on health policy for three years in the National Institute on Drug Abuse, a component of the National Institutes of Health. I am currently an adjunct professor of law at the Georgetown University Law Center where I teach 'Drug Abuse and the Law: Policy, Politics, and Public Health' and 'Alternative and Complementary Medicine: Legal Issues.' I also chair the Physicians Health Program of the District of Columbia Medical Society which intervenes on and then coordinates the monitoring and treatment of physicians suffering from drug dependence, alcoholism, or any other condition that may interfere with their ability to provide patient care. Since entering the field of law, I have published a dozen works analyzing legal and bioethical issues. My most recent contributions are *Drugs, Addiction, and the Law: Policy, Politics, and Public Health*, Carolina Academic Press, Durham, NC (2004) and *Science, Politics, and the Regulation of Dietary Supplements—It's Time to Repeal DSHEA*, in press, *American Journal of Law & Medicine*. ❖

Books Received

Beverages in Nutrition and Health.
Ted Wilson, Ph.D., and Norman J. Temple, Ph.D., (Editors).
Totowa, NJ: Humana Press, 2004, 427 pp., illus., index, $125.00.
ISBN: 1-558-29-173-1.

Human Body Composition, Second Edition.
Steven B. Heymsfield, Timothy G. Lohman, ZiMian Wang, and Scott B. Going, (Editors).
Champaign, IL: Human Kinetics, 2005, 523 pp., illus., index, $89.00.
ISBN: 0-7360-4655-0.

Ion Channels in the Pulmonary Vasculature.
Jason X-J Yuan, (Editor).
Boca Raton, FL: Taylor & Francis Group, 2005, 791 pp., illus., index, $199.95.
ISBN: 0-8247-5968-0.

The Role of Mathematics on Human Structure.
Swapan Kumar Adhikari.
West Bengal, India: Dipali Publication, 2005, 155 pp., illus., index, $49.75.
ISBN: 81-901643-0-9.

Understanding the Human Machine: A Primer for Bioengineering.
Max E. Valentinuzzi.
Singapore: World Scientific, 2004, 396 pp., illus., index, $48.00.
ISBN: 981-256-043-2.

Millhorn Named VP of Research

David Millhorn has been named Vice President of Research for the University of Tennessee System. Millhorn is currently director of the Genome Research Institute at the University of Cincinnati. In his new position, Millhorn will lead the UT system's $273 million research enterprise at its campuses and research centers throughout Tennessee. He will have a faculty appointment with the UT Health Science Center in Memphis.

Pepe Appointed Dean and Provost

Gerald J. Pepe has been appointed Dean and Provost of Eastern Virginia Medical School. He succeeds Evan R. Farmer, who left EVMS June 30, 2004, after three years as Dean and Provost. A member of the EVMS faculty since 1978, Pepe is Chairman of the Department of Physiological Sciences at EVMS. He was appointed Interim Dean and Provost in July 2004.

Bonham Appointed Executive Associate Dean for Research and Education

Ann Bonham, professor and chair of the Department of Medical Pharmacology at UC, Davis, has been appointed Executive Associate Dean for Research and Education. Bonham had been serving as acting Executive Associate Dean of the School of Medicine since March 1. According to the UC, Davis announcement, Bonham's responsibilities include "coordinating and developing biomedical research, including basic translational and clinical research; identifying and promoting interdisciplinary research and technological advances to explore frontiers in modern medicine; seek new funding opportunities among industry, public funding sources and collaborative research programs; and overseeing all graduate student and postdoctoral training. Bonham will have responsibility for the Associate Dean for Basic Research, the Assistant Dean for Clinical Research and the Vice Dean for Medical Education." Bonham has been on the UC Davis faculty since 1989.

Burton Sobel Appointed Founding Director

Burton Sobel has been appointed founding director of the new Cardiovascular Research Institute (CVRI) established by the University of Vermont College of Medicine and Fletcher Allen Health Care. Sobel has resigned as chair of medicine at the University of Vermont, effective July 1, 2005, to devote his full attention to the research and training institute.

APS Member is IOM Fellow

The Institute of Medicine (IOM) of the National Academies named seven new Robert Wood Johnson Foundation Health Policy Fellows for 2005-2006. APS Member, **Sarah England**, University of Iowa, was one of those selected as a Health Policy Fellow. The fellows—outstanding midcareer health professionals—were chosen on a competitive basis from nominations submitted by academic institutions, nonprofit health care organizations, and other community-based providers. The fellows will spend a year in Washington, DC, working in a congressional office or the executive branch.

Peter Agre is currently associated with the Department of Cell Biology, Duke University Medical Center, Durham, NC, as Vice-Chancellor. Agre's former position was as a Professor, Department of Biological Chemistry, Johns Hopkins University School of Medicine, Baltimore, MD.

Theodore J. Angelopoulos, a Professor, has affiliated with the Department of Health Professions, University of Central Florida, Orlando, FL. Angelopoulos was formerly Professor and Director of the Department of Child Family and Community Sciences, University of Central Florida, Orlando, FL.

John T. Barron accepted the position of Director, Advocate Lutheran General Hospital, Division of Cardiology, Department of Medicine, Park Ridge, IL. Barron previously was associated as a Professor with Loyola University Stritch School of Medicine, Department of Medicine, Division of Cardiology, Maywood, IL.

John Townsend Berg has become Director, Lung Injury Research Institute, Mamarlao, San Carlos City, Pangasinan, Philippines. Formerly, Berg was Associate Research Professor, Department of Tropical Medicine, Microbiology and Pharmacology, University of Hawaii, Manoa, Honolulu, HI.

Paul Page Bertrand is now an Assistant Professor, University of Nevada, Department of Physiology and Cell Biology, Reno, NV. Bertrand was formerly a Research Fellow, Department of Physiology, University of Melbourne, Victoria, Australia.

Jeffrey John Brault recently affiliated with Harvard Medical School, Department of Cell Biology, Boston, MA, as a Postdoctoral Fellow. Brault was previously a Postdoctoral Fellow at Michigan State University, Department of Physiology, East Lansing, MI.

Keith Patrick Choe is currently a Postdoctoral Student, Vanderbilt University Medical Center, Nashville, TN. Choe formerly was associated with the Mount Desert Island Biological Laboratory, Salisbury Cove, ME.

William H. Cooke accepted the position of Associate Professor with the Department of Health and Kinesiology, The University of Texas, San Antonio, TX. Previously, Cooke held the position of Research Physiologist, US Army Institute of Surgical Research, Fort Sam Houston, TX.

Aidan Curran has affiliated with Schering Plough Research Institute as an Associate Principle Scientist, Kenilworth, NJ. Formerly, Curran was

an Assistant Professor, Ross University School of Medicine, Physiology Department, Portsmouth, Dominica.

Patricia M. DePaula joined the Department of Physiology, School of Dentistry, Paulista State University, at Araraquara, Sao Paulo, Brazil, as an Assistant Professor. DePaula was formerly a Postdoctoral Fellow, Department of Pharmacology, University of Texas Health Science Center, San Antonio, TX.

Paul Dietl, Professor, moved to the University of Ulm, Department of General Physiology, Ulm, Germany. Dietl was previously associated with the University of Innsbruck, Department of Physiology, Innsbruck, Austria.

F. Edward Dudek has accepted the position of Professor and Chairman, Department of Physiology, University of Utah School of Medicine, Salt Lake City, UT. Dudek was formerly Professor, Department of Biomedical Sciences, Colorado State University, Fort Collins, CO.

Randall L. Duncan joined the Department of Biological Sciences, University of Delaware, Newark, DE, as an Assistant Professor. Duncan was previously associated with the Department of Orthopaedic Surgery, Indiana University, Indianapolis, IN.

Marlies Elger affiliated with the University of Heidelberg, Institute of Anatomy and Cell Biology, Heidelberg, Germany, as a Research Scientist. Elger previously had been associated with the Medical School Hannover, Department of Nephrology, Hannover, Germany.

Kathrin L. Engisch moved to Wright State University where she is an Assistant Professor, Department of Neuroscience, Cell Biology and Physiology, Dayton, OH. Engisch was previously associated with Emory University School of Medicine, Department of Physiology, Atlanta, GA.

Jinping Fan accepted the position of Attending Physician, Department of Medicine, Cardiology Section, Baylor College of Medicine, Houston, TX. Prior to his new assignment, Fan was Attending Physician, Department of Emergency Service, Oak Forest Hospital, Oak Forest, IL.

Candice D. Fike is currently Professor, Department of Pediatrics, Division of Neonatology, Vanderbilt University Medical Center, Nashville, TN. Fike was previously an Associate Professor, Department of Pediatrics, Wake Forest University School of Medicine, Winston Salem, NC.

Mark Richard Fowler presently is a Postdoctoral Research Fellow, University of Glasgow, Institute of Biomedical and Life Sciences, Glascow, Scotland, UK. Prior to his new affiliation, Fowler was associated with the University of Leeds, School of Biomedical Sciences, Leeds, West Yorkshire, England, UK.

Joe G. N. Garcia has accepted the position of Chairman, Department of Medicine, University of Chicago Medical Center, Chicago, IL. Garcia was formerly Professor, Department of Pulmonary and Critical Care Medicine, Johns Hopkins University, Baltimore, MD,

Jason D. Gardner has affiliated as an Assistant Professor with the University of South Carolina Medical School, Columbia, SC. Previously, Gardner was a Research Assistant Professor, Department of Anatomy, Physiology, and Pharmacology, Auburn University, Auburn, AL.

Paige Christine Geiger accepted the position of Assistant Professor, University of Kansas Medical Center, Department of Molecular and Integrative Physiology, Kansas City, MO. Prior to her new position, Geiger was a Postdoctoral Fellow, Department of Internal Medicine, Washington University School of Medicine, St. Louis, MO.

Allen G. Gibbs recently moved to the University of Nevada as an Associate Research Scientist, Department of Biological Sciences, Las Vegas, NV. Gibbs was formerly associated with the Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ.

Todd E. Gillis assumed the post of Assistant Professor, University of Guelph, Department of Integrative Biology, Guelph, Ontario, Canada. Prior to his new position, Gillis had been a Postdoctoral Fellow, Department of Bioengineering, University of Washington, Harris Hydraulics Lab, Seattle, WA.

Kristin L. Gosselink is currently Assistant Professor, Department of Biological Sciences, University of Texas at El Paso, TX. Gosselink, previously a Research Associate, was affiliated with the Laboratory of Neural Structure and Function, Salk Institute, La Jolla, CA..

Gabriel G. Haddad, Professor, Pediatrics and Neuroscience, is currently Chairman, Department of Pediatrics, University of California, San Diego Dept., La Jolla, CA. Haddad was formerly Chairman, Department of Pediatrics, Rose Kennedy Center, Albert Einstein College of Medicine, Bronx, NY.

Matthew Paul Harber affiliated with Ball State University, Human Performance Laboratory, Muncie, IN, as a postdoctoral Fellow. Formerly, Harber was associated with the Division of Kinesiology, University of Michigan, Ann Arbor, MI.

Joseph S. Janicki is currently Professor and Chair, Department of Cell and Developmental Biology and Anatomy, University of South Carolina, Columbia, SC. Prior to his new position, Janicki had been Associate Dean, Research Graduate Studies, and Professor, Department of Anatomy, Physiology, and Pharmacology, Auburn University, Auburn, AL.

Andrew Mark Jones, Professor of Applied Physiology, joined the University of Exeter School Sport and Health Sciences, St. Lukes Campus, Exeter, England, UK. Jones was previously affiliated with Manchester Metropolitan University, Exercise and Sport Science, Alsager, England, UK.

Matthew J. Kluger moved to George Mason University, Fairfax, VA, as Vice President for Research. Kluger was formerly Vice President for Research, and Dean, School of Graduate Studies and Professor, Department of Physiology, Medical College of Georgia, Augusta, GA.

J. Mailen Kootsey has accepted the position of President, Simulation Resources, Inc., Redlands, CA. Kootsey previously had been Professor, Depart-

ment of Physiology and Pharmacology, Loma Linda University School of Medicine, Loma Linda, CA.

Michael H. Koval recently affiliated with Emory University School of Medicine, Pulmonary Division, Atlanta, GA. Formerly, Koval had been associated with the University of Pennsylvania School of Medicine, Department of Physiology, Philadelphia, PA.

Eric Lazartigues is currently an Assistant Professor, Department of Pharmacology and Experimental Therapeutics, Louisiana State University Health Sciences Center, New Orleans, LA. Lazartigues was formerly a Postdoctoral Fellow, Department of Anatomy and Cell Biology, University of Iowa, Iowa City, IA.

Pin-Lan Li has accepted the position of Associate Professor, Department of Pharmacology and Toxicology, Virginia Commonwealth University, Medical College of Virginia Campus, Richmond, VA. Li had previously been affiliated with the Department of Pharmacology and Toxicology, Medical College of Wisconsin, Milwaukee, WI.

Merry L. Lindsey, an Assistant Professor, recently associated with the University of Texas Health Science Center, Department of Medicine and Cardiology, San Antonio, TX. Lindsey was previously affiliated with the Department of Surgery, Medical University of South Carolina, Charles-ton, SC.

He-ping Ma has joined the Department of Medicine, Division of Nephrology, University of Alabama, Birmingham, Alabama, as an Assistant Professor. Prior to his new position, Ma was affiliated with the Department of Physiology, Emory University School of Medicine, Atlanta, GA.

Shuichi Machida currently is an Assistant Professor, Waseda University, Saitama, Japan. Previously, Machida had been a Postdoctoral Fellow, International Budo University, Department of Exercise Physiology, Katsura, Chiba, Japan.

Martin J. Mangino recently joined the Department of Surgery-Trauma Unit, Medical College of Virginia, Richmond, VA. Mangino was formerly affiliated with the Department of Surgery-Transplant Unit, University of Wisconsin School of Medicine, Madison, WI.

Diane Eilene McClure has associated with Animal Resources Center, Veterinary Services, Goleta, CA, as a Consulting Veterinarian. Prior to her new position, McClure was Director and Campus Veterinarian, Animal Resource Center, University of California, Santa Barbara, CA.

Gerald A. Meininger accepted the position of Professor and Associate Head, Dalton Cardiovascular Research Center, University of Missouri, Columbia, MO. Meininger was formerly Regents' Professor and Associate Head and Director Vascular Biology, Department of Medical Physiology, Texas A&M University Systems, College Station, TX.

Robin Nicholas Michel recently affiliated as a Professor with Concordia University, Department of Exercise Science, Renaud Science Complex, Montreal, Canada. Previ-ously, Michel had been Professor, Department of Chemistry and Biochemistry, Laurentian University, Sudbury, Ontario, Canada.

Jordan Daniel Miller affiliated with the University of Iowa as a Postdoctoral Research Fellow, Iowa City, IA. Miller was previously a Student at the University of Wisconsin, Madison, WI.

William E. Mitch accepted the position of Professor, Department of Medicine and Nephrology, Baylor College of Medicine, Houston, TX. Formerly, Mitch was Chairman of Internal Medicine, University of Texas Medical Branch, Galveston, TX.

Vinod Narra is currently Instructor in Surgery, Henry Ford Hospital, Department of Surgery, Detroit, MI. Narra recently moved from the Department of Surgery, Georgetown University Hospital, Washington, DC.

Mohammed A. Nayeem recently accepted the position of Research Instructor, Department of Pharmacology and Toxicology, East Carolina University, Greenville, NC. Prior to his new position, Nayeem was a Biologist, National Institute of Environmental Health Sciences, National Institutes of Health, Research Triangle Park, NC.

William T. Noonan, a Postdoctoral Fellow, joined Abbott Laboratories, Department of Integrative Pharmacology, Abbott Park, IL. Noonan was formerly with the Department of Genome Science, University of Cincinnati, Reading, OH.

Patricia A. Preisig has accepted a position as Professor, Division of Nephrology, Yale University, New Haven, CT. Prior to her new appointment, Preisig was Professor, Department of Internal Medicine, University of Texas Southwestern Medical Center, Dallas, TX.

Thomas Patrick Olson recently affiliated with the Mayo Clinic, Rochester, MN, as a Postdoctoral Fellow. Olson previously had been a Student with the Department of Exercise Physiology, University of Minnesota, Minneapolis, MN.

De-Lai Qiu accepted the position of Research Assistant for the Brain Science Institute, Japanese Laboratory for Neuronal Circuit Dynamics, Saitama, Japan. Prior to his new position, Qiu was affiliated with Miyazaki Medical College, Department of Public Health, Miyazaki, Japan.

John C. Quindry recently accepted the position of Assistant Professor, Appalachian State University, Boone, NC. Quindry had been a postdoctoral fellow, Center for Exercise Science, University of Florida, Gainesville, FL.

Jack D. Shepard, an Assistant Professor, has joined the Department of Biological Sciences, Towson University, Towson, MD. Shepard previously had been affiliated with the Cellular Neurobiology Research Branch of the Intramural Research Program, The National Institute on Drug Abuse, National Institutes of Health, Baltimore, MD, as a Postdoctoral Fellow.

Mihaela Stefan has joined the University of Pittsburgh, Children Hospital of Pittsburgh, Rangos Research Center, Pittsburgh, PA. as a Research Assistant Professor. Prior to her new assignment, Stefan had been a Postdoctoral Researcher, Department of Psychiatry, University of Pennsylvania, Philadelphia, PA.

Donald B. Stratton, Professor of Physiology, has moved to Venice, FL. Previously, Stratton held the position of Professor of Physiology, Department of Biology, Drake University, Des Moines, IA.

Karen Leanna Sweazea has affiliated as a Postdoctoral Fellow with the University of New Mexico, Health Sciences Center, Albuquerque, NM. Sweazea had been associated with the Department of Physiological Sciences, University of Arizona, Tucson, AZ.

Anitaben Tailor is currently a Postdoctoral Fellow, Division of Pulmonary and Critical Care Medicine, Johns Hopkins University, Baltimore, MD. Previously, Tailor had been affiliated with the Department of Molecular and Cellular Physiology, Louisiana State University Health Science Center, Shreveport, LA.

Mark L. Zeidel recently accepted the position of Herman L. Blumgart Professor of Medicine, Department of Medicine, Beth Israel Deaconess Medical Center, Boston, MA. Prior to his new position, Zeidel was the Jack D. Myers Professor and Chair, Department of Medicine, University of Pittsburgh School of Medicine, Pittsburgh, PA.

2005-2006 APS Porter Physiology Fellows Announced

The APS and Porter Physiology Development Committee congratulate the 2005-2006 APS Porter Physiology Fellows from the second round of applications: **Andrew J. Clark**, University of California, Irvine; **Jeffrey B. Mason**, University of California, Davis; **Kristy M. Nicks,** University of Arkansas for Medical Sciences.

The Porter Fellows selected from the first round were: **Jessica Clark**, University of Arizona; **Damon Jacobs**, University of North Carolina, Chapel Hill; **Lymari López-Díaz**, University of Michigan; **Walson Metzger**, UMDNJ; **Adrienne L. Orr**, Stanford University; **Clintoria Latrice Williams**, University of Alabama at Birmingham.

The Porter Physiology Fellowships for minorities are one-year fellowships that provide a stipend of $18,000. The fellowships are open to underrepresented ethnic minority applicants (African Americans, Hispanics, Native Americans, Native Alaskans, or Pacific Islanders) who are citizens or permanent residents of the United States or its territories. Applicants must have been accepted into or currently be enrolled in a graduate program pursuing an advanced degree in the physiological sciences. For more information, see the APS website at http://www.the-aps.org/education/minority_prog/porterfell.htm or contact Melinda Lowy in the APS Education Office at education@the-aps.org or 301-634-7132. There will only be one deadline for 2005-2006 applications, which will be **January 15, 2006**. ❖

Fourteenth Annual Arthur C. Guyton Physiology Educator of the Year Award

Call for Nominations

The Teaching Section of the American Physiological Society invites you to nominate a fellow physiology educator for the Fourteenth Annual Arthur C. Guyton Physiology Educator of the Year Award.

Nominees must be full-time faculty members of accredited colleges or universities and members of the American Physiological Society. The Selection Committee will look for independent evidence of: *1*) excellence in classroom teaching over a number of years at undergraduate, graduate, or professional levels; *2*) commitment to the improvement of physiology teaching within the candidate's own institution; and *3*) contributions to physiology education at the local community, national or international levels.

In the past, all nominees have shown excellence in teaching at their home institution and many have made significant local contributions through advising, graduate education, or curriculum design and reform. Consequently, the activities that distinguish a candidate in the rankings include outreach activities at the state, national, or international level; contributions to education through APS activities; peer-reviewed educational journal articles; and widely disseminated publications such as commercially produced textbooks, lab manuals, or software.

Each nominee must be nominated by a member of APS. The Nominator should send a letter of support outlining the qualifications of the nominee to the Chair of the Award Selection Committee, no later than **Friday November 11, 2005**. The Candidate will be asked to submit a portfolio that includes a statement of teaching philosophy and achievements; summaries of student evaluations, teaching honors and awards; and evidence of education-related activities outside the classroom. Letters of support from colleagues and, if desired, students of the candidate will also be requested. The committee requests electronic submission of all material by **January 11, 2006.**

The person selected will receive the award during the APS business meeting at the April 2006 annual meeting of the American Physiological Society (Experimental Biology 2006, April 1-5 in San Francisco, CA). The Arthur C. Guyton Physiology Educator of the Year will receive a framed, inscribed certificate, an honorarium of $1,000 and expenses of up to $600 to attend the meeting. The awardee is requested to write an essay on his/her philosophy of education for publication in *The Physiologist*.

The Chair of the Guyton Award Selection Committee is Maureen Burton, Division of Basic Biomedical Sciences, University of South Dakota School of Medicine. Email: mburton@usd.edu, Phone: 605-677-5172, Fax: 605-677-6381.

Previous Awardees
2005: Robert W. Gore
2004: Robert G. Carroll
2003: George A. Ordway
2002: John West

November 9-12

First Congress of Physiological Sciences of Serbia and Montenegro, Belgrade, Serbia. *Information:* Internet: http://www.physiology.org.yu/eng/htm/konf2005/announcement.pdf.

November 9-12

Ideas to Action: Healthy Living in Canada, Gatineau, Quebec, Canada. *Information:* Internet: http://www.csep.ca/csep2005.asp.

November 13-17

SETAC North America 26th Annual Meeting, Baltimore Convention Center, Baltimore, MD. *Information:* Society of Environmental Toxicology and Chemistry (SETAC), 1010 North 12th Avenue, Pensacola, FL 32501-3367 USA. Tel: 850 469 1500 ext. 28; Fax: 850 469 9778, Email: ashleyt@setac.org; Internet: http://www.setac.org.

December 7-9

ILSI's First International Conference on Nutrigenomics - Opportunities in Asia, Singapore. *Information:* Veronita Rusli, Assistant Manager - Science Programs, ILSI Southeast Asia Region, 1 Newton Road, Goldhill Plaza, #03-45 Podium Block, Singapore 308899. Tel: 65-6352-5220; Fax: 65-6352-5536, E-mail: ilsi.nutrigenomicsconf@ilsisea.org.sg.

December 10-14

The American Society for Cell Biology 45th Annual Meeting. *Information:* The American Society for Cell Biology, 8120 Woodmont Ave., Suite 750, Bethesda, MD 20814-2762. Tel: 301-347-9300; Fax: 301-347-9310; Email: ascbinfo@ascb.org. Internet: http://www.ascb.org.

2006

February 11-16

Medical Imaging, San Diego, CA. *Information:* Internet: http://spie.org/conferences/calls/06/mi/.

February 18-22

50th Annual Meeting of the Biophysical Society. Salt Palace Convention Center, Salt Lake City, UT. *Information:* http://www.biophysics.org.

March 3-6

Second International Meeting on Physiology and Pharmacology of Temperature Regulation, Phoenix, AZ. *Information:* Andrej A. Romanovsky, M.D., Ph.D., Director, Systemic Inflammation Laboratory Trauma Research, St. Joseph's Hospital and Medical Center, 350 West Thomas Road, Phoenix, Arizona 85013 USA. Tel: 602-406-5059; Fax: 602-406-4113; Email: aromano@chw.edu; Internet: http://www.feverlab.net/meeting/index.htm.

March 6-8

International Symposium on Clinical Neurology and Neurophysiology, Tel Aviv, Israel. *Information:* ISAS International Seminars, PO Box 574, Jerusalem 91004, Israel. Tel: ++972-2-6520574; Fax: ++972-2-6520558. Internet: http://www.neurophysiology-symposium.com.

April 22-26

8th International NPY Meeting, Clearwater, FL. *Information:* Internet: http://www.doce-conferences.ufl.edu/npy.

June 24-29

31st FEBS Congress - Molecules in Heath and Disease (hosted by Turkish Biochemical Society), Istanbul, Turkey. *Information:* ODS Congress Management Sari Asma Sok. No: 8, 34464 Yenikoy - Sariyer, Istanbul - Turkey. Tel: +90 212 299 99 80; Fax: +90 212 299 99 77; E-mail : febs@febs2006.org; Internet: http://www.febs2006.org/.

June 28-July 1

5th International Congress of Pathophysiology, Beijing, China. *Information:* Prof. Liling Wu, Secretary General of ISP2006, Department of Pathophysiology, Peking University Health Science Center, 38 Xueyuan Road, Beijing 100083, China. Fax: +86 10 82802403; E-mail: wull@isp2006.org.cn or pathophy@bjmu.edu.cn; Internet: http://www.isp2006.org.cn.

July 3-7

The Third International Symposium on Aero Aqua Bio-Mechanisms (ISABMEC 2006), Okinawa, Japan. *Information:* Internet: http://abmech.org/isabmec2006/.

October 26-29

Joint World Congress on Stroke: International Stroke Society, Mediterranean Stroke Society and Southern African Stroke Foundation, Cape Town, South Africa. *Information:* Global Congress Organizers and Association Management Services, 17 Ru du Cendrier, P.O. Box 1726, CH-1211 Geneva 1, Switzerland. Tel: +44 22 908 0488; Fax: +44 22 732 2850; E-mail: stroke2006@kenes.com; Internet: http://www.kenes.com/stroke2006.