A Publication of The American Physiological Society

Integrating the Life Sciences from Molecule to Organism

THE Physiologist

Volume 45, Number 1

February 2002

FASEB Federal Funding Consensus Conference

Executive Summary

Our investment in scientific research has contributed substantially to our health and quality of life. We have made tremendous progress in the battle against disease and now enjoy longer, healthier lives. With the power of the new discoveries in genetics, we stand on the threshold of even more profound understanding of basic biological processes which will, in turn, dramatically enhance our abilities to prevent, treat and cure disease.

The past year has also seen the rise of new threats to our security. Protection against bioterrorism has become a major national priority. Due to our previous investments in research, the scientific community was able to immediately contribute to the nation s response to this new threat. Much more remains to be done, and we stand ready to do our part. Scientific research must be an essential component in our plans to meet the challenges of the 21st century.

In this report, the Federation of American Societies for Experimental Biology (FASEB), on behalf of its 21 member societies representing more than 60,000 scientists, offers its view of immediate research opportunities for scientific and medical advancement and provides fiscal year 2003 funding recommendations for the biomedical and life sciences portfolios of seven federal agencies.

National Institutes of Health (NIH)

FASEB recommends an appropriation of $27.3 billion for NIH in FY 2003. This will achieve the goal of doubling the NIH budget within five years.

National Science Foundation (NSF)

FASEB supports a major increase in the average size and duration of NSF grants.

FASEB supports funding more of the most meritorious yet currently unfunded proposals.

FASEB advocates a return to the commitment to double the NSF budget and recommends that the NSF budget for FY 2003 be increased by at least 15 percent, to $5.5 billion.

United States Department of Agriculture (USDA)

FASEB supports increasing funding for the National Research Initiative Competitive Grants Program to at least $200 million. This amount would be a significant step toward bringing the program closer to its authorized level of $500 million.

FASEB recommends that funding for the National Needs Fellowship Grants be increased to $5 million and the Higher Education Challenge Grants increased to $6 million.

FASEB supports development of mechanisms that would enable the Initiative for Future Agriculture and Food Systems to become a stable source of research funds.

Department of Energy (DOE)

FASEB recommends a budget of $3,668 million for DOE s Office of Science in FY 2003 for work that addresses important national needs in basic energy sciences and to augment important core programs, enhance utilization of major research facilities, develop the next generation of scientific tools and strengthen research and education at US universities.

FASEB supports the establishment of the position of Under Secretary of Science and Energy Research.

National Aeronautics and Space Administration (NASA)

FASEB recommends that the Office of Biological and Physical Research (OBPR) give the highest priority to expanding its investigator-initiated, peer-reviewed research program. This effort should include an increase in the number of meritorious proposals funded, the addition of a second annual review cycle, expansion of the ground-based research program to support the OBPR flight program and to prepare for utilization of the International Space Station and expansion of outreach activities to enlist, train and retain outstanding investigators.

FASEB recommends an annual increase of $100 million for OBPR s biological research programs to be used to enhance investigator-initiated, peer-reviewed life sciences research opportunities.

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THE Physiologist
Volume 45 Number 1
February 2002

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Published bimonthly and distributed by The American Physiological Society

9650 Rockville Pike
Bethesda, Maryland 20814-3991
ISSN 0031-9376

Subscriptions: Distributed to members as part of their membership. Nonmembers in the USA: individuals $50.00; institutions $75.00. Nonmembers in Canada and Mexico: individuals $55.00; institutions $80.00. Nonmembers elsewhere: individuals $60.00; institutions $85.00. Single copies and back issues when available, $15.00 each; single copies and back issues of Abstracts issues when available, $25.00. Subscribers to *The Physiologist* also receive abstracts of the Conferences of the American Physiological Society.

Deadline for submission of material for publication: Jan. 10, February issue; March 10, April issue; May 10, June issue; July 10, August issue; Sept. 10, October issue; Nov. 10, December issue.

Please notify the central office as soon as possible if you change your address or telephone number.

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Printed in the USA

Executive Summary

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Department of Veterans Affairs (VA)

FASEB recommends that $404 million be appropriated in FY 2003 for VA biomedical research, $33.5 million (a nine-percent increase) over FY 2002. This should be the beginning of a sustained, multi-year investment.

Environmental Protection Agency (EPA)

FASEB encourages the EPAs Office of Research and Development to attract and retain talented scientists through an expanded pre-doctoral, post-doctoral and faculty exchange program.

FASEB urges Congress to provide new funds for projects that it directs the EPA to perform.

FASEB recommends that funding for the Science to Achieve Results (STAR) program be increased by $25 million.

FASEB recommends that funding for the EPAs Office of Research and Development budget be increased to $664 million for FY 2003. ❖

The report can be accessed at http://www.faseb.org/opar/fund2003/fedfund03.pdf .

A Matter of Opinion

Creating a Better Mousetrap!

On January 11th, HighWire Press, the producer of APS online journal sites, announced the launch of a new and better mousetrap for the scientific community. Named the HighWire Library of the Sciences and Medicine [from http://highwire.stanford.edu, click on the link to try the beta version], the site is designed to address one of the major concerns of the proponents of E-Biomed and the Public Library of Science (http://www.publiclibraryofscience.org). That is, the creation of a single site for digital scientific content deposition will provide enhanced searchability for all of Medline, plus the full text of 300 science journals.

In an earlier article (*1*), I indicated that it was the view of the proponents of E-Biomed and the Public Library of Science, that PubMed Central (http://www.pubmedcentral.nih.gov) would play this role. David Lipman, Director for the National Center for Biotechnology Information (NCBI), had been pushing the community of scholarly publishers to deposit their digital content into PubMed Central (PMC) for archiving and searching purposes. However, to do that, the APS and other publishers would have had to bear the cost of file conversion to meet the requirements set by NCBI. The digital content housed on the HighWire computers needed to be manipulated and transferred to NCBI for publication on PubMed Central. This was an unnecessary financial burden at a time when the proponents of the Public Library of Science (PLoS) were also telling non-profit scholarly publishers that the content should be given away. As a result of the disconnect between the desires of PLoS and the financial realities of publishing scientific journals online, very few publishers took PubMed Central up on their offer. To date, only five established journals have content posted on PubMed Central. An additional seven online journals are included on the site along with a number of journals published by BioMed Central (http://www.biomedcentral.com), a commercial publisher seeking to create new journals to compete with the existing scholarly journals.

Instead of transferring content from HighWire to PMC, at additional cost, the APS and many of the other scholarly publishers working with HighWire decided to build on the already enormous collection of scientific literature on the HighWire site by creating a web portal that provided the scientific community with enhanced searchability in one location. As expressed by many of the early proponents of E-Biomed, they wanted a site where the entirety of the scientific literature could be searched without encountering barriers caused by access restrictions. PubMed (and Medline) provides such a site, but much of the content is not posted for several weeks after publication, and contains full-text access to articles provided by only the few publishers participating in PMC.

HighWire put together a Portal Advisory Committee comprised of representatives from approximately 12 publishers, including the APS, to guide the development of the HighWire Public Library of the Sciences and Medicine. The new site offers users seamless, full-text access to nearly 300 highly cited journals, plus simultaneous, searchable access to all of Medline. In addition, the portal provides access to the world s largest archive of free, peer-reviewed, full-text life sciences research with over 385,000 full-text articles. It should be noted that PMC has about 61,000 full text articles, an order of magnitude fewer full text articles for searching than HW has and a factor of six fewer free articles than is available through the HighWire portal.

The new HighWire site allows researchers to be more productive, focused and efficient in finding just the information they need. The new site has been enhanced to include 12 powerful new search features, advanced browsing capabilities, linguistic processing, and a four-color graphical TopicMap, which gives the researcher a sense of context while navigating HighWire s new peer-reviewed taxonomy in a tree-structured topical database browser. Users of the site will have seamless access to both free and paid content and simplified management of content alerts.

As scientists and publishers have debated the merits of making more of the literature free, researchers have told us what is important to the productivity and quality of their research: barrier-free access to more full-text content; easier, more comprehensive and more precise cross-journal search-

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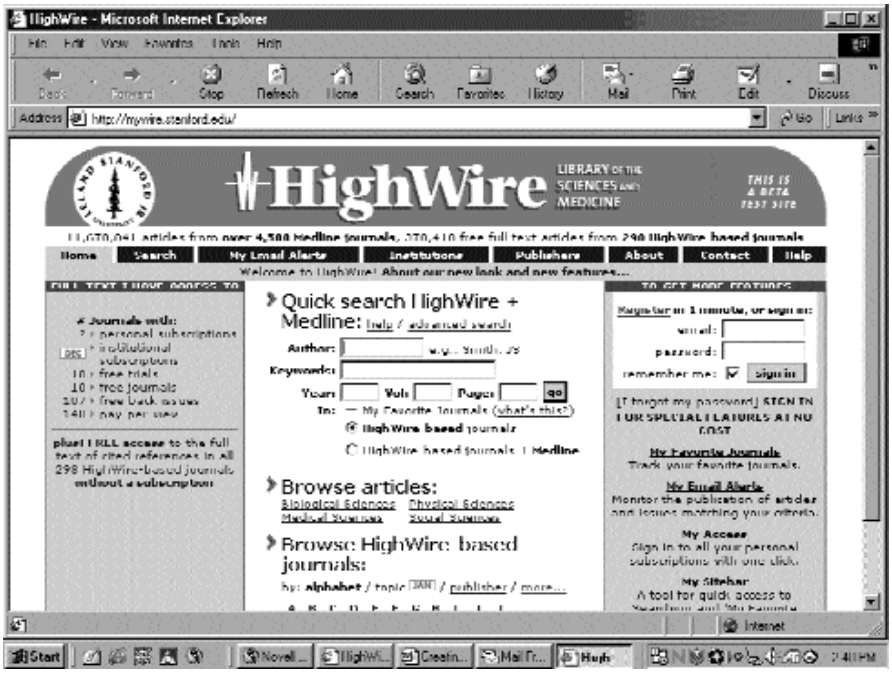
ing; and subject-specific, personalized email alerts, said John Sack, Director and Associate Publisher of HighWire press. The new HighWire site is our publishers and HighWire Press s specific response to researchers stated needs. The APS is excited about being part of this joint venture.

The new site will provide researchers with access to nearly 300 leading full-text journals including 80 of the 200 most frequently cited life sciences journals in the world, including the APS journals, on the journals own sites. In addition, users will be able to use the site to search the entire content of Medline, with one-click access to the full text. It is also clear from the search results, which articles are free over 350,000 currently are free or which articles are accessible via a personal or institutional subscription.



In developing the site, the HighWire Portal Advisory Committee encouraged the inclusion of new subject-based browsing features in order to provide a way for researchers who are new to a field to browse articles, and for keyword-searchers to refine their searches by topic. The HighWire Library offers an enhanced CiteTrack feature, which provides automatic updating of citation references as new articles are published. Toll-Free Linking gives researchers the full-text of these cited references in any HighWire-based journal article. The HighWire Library also offers researchers a rich taxonomy with more than 22,000 topic categories in a detailed hierarchy developed by professional librarians, with discipline-by-discipline peer review underway by leading researchers. Nearly 12 million articles have been categorized with almost a quarter of a billion topic entries.

The scientific community has asked for a better way to perform its literature searching and APS, in conjunction with HighWire Press and 100 other non-profit publishers, has responded. The HighWire Library of the Sciences and Medicine is the better mousetrap that the community has requested. Don t be the one asking, Who stole my cheese? use the HighWire Library of the Sciences and Medicine to keep track of it!

Martin Frank

1 **Frank, M**. No Free Lunch. *The Physiologist* 44: 109, 2001

APS Council Holds Fall Meeting in Virginia

The APS Council held their fall meeting at the Lansdowne Resort in Leesburg, VA, November 3-5, 2001. The International Union of Physiological Scieces (IUPS) 2005 meeting, the APS Communications program, and the 2000 Strategic Plan were among many key issues on the agenda for discussion. Council was also presented with reports from the Publications, Finance, Joint Program, Membership, Public Affairs, Animal Care and Experimentation, Education, and Daggs Award committees. APS staff members Linda Allen, Marsha Maytas, Robert Price, Alice Ra anan, and Margaret Reich also joined the meeting to assist with the committee report presentations.

Executive Director Martin Frank presented Council with the minutes of the IUPS 2005 National Organizing Committee Meeting held August 30, 2001, in Christchurch, New Zealand. At this meeting, the IUPS Council and Executive Committee approved a change of venue for the IUPS 2005 meeting from Washington, DC to San Diego, CA. The meeting will now be held in conjunction with EB 2005.

The Publications Committee announced the appointment of several new editorships. The first was the appointment of Dennis Ausiello as Editor of the Physiology in Medicine series, which will be published in the *Annals of Internal Medicine*. Also, new editors for both the *Journal of Neurophysiology* and *AJP-Cell Physiology* were named. Eve Marder, Brandeis University, will be the new editor of the *Journal of Neurophysiology*, and Dennis Brown, Harvard University, will be the new editor of *AJP-Cell Physiology*. Both will begin their terms on July 1, 2002. Council also approved a motion made by the committee to provide free access to APS journals in developing countries. Both the committee and Council believe that making the journals available is of critical importance to these countries as they may contain information pertinent to treatments.

The Finance Committee presented Council with the final 2001 budget and the proposed 2002 budget, both of which were accepted and approved by Council. The Committee and APS senior management also made the recommendation that funding for the legacy data project be taken from the APS reserve accounts. The legacy data project will make available to the scientific community the content of all APS journals dating back to 1898. The content will be scanned and then posted on the respective APS journal web sites. The project will be handled in three separate phases, the last 10 years of content being posted first. Since this would be a one-time only cost, and APS would be providing a service to the scientific community, Council approved the funding for the project.

The Joint Program Committee reported on the two APS conferences held in October 2001. Although the two conferences took place shortly after the tragic events of September 11, attendance at the conferences was not greatly affected. Based on the success of these and past conferences, Council has requested that the Joint Program Committee work to increase the number of annual conferences from two to four.

Within the past year, a Communications Committee has been established, and an inter-departmental communications team was formed to begin implementation of the new APS communications program. The Committee and the inter-departmental team will work together to inform the media and public about new developments in the field of physiology, and the contributions made by APS to the field. They have begun working on identifying several internal APS programs that would be of interest to both the media and the public, and have also developed a procedure for identifying experts to respond to media questions regarding physiology. Efforts are also underway to publicize the science published in the APS journals. This is being done through a journal release program. Each month articles are reviewed and selected based on their newsworthiness. The articles are then summarized and compiled into a release that is distributed to science writers and media outlets and posted in the APS Press Room (http://www.the-aps.org/press_room/). They are also working to obtain media coverage for APS conferences and the awards program.

The Public Affairs Committee updated Council on the status of its new Legislative Action Center. The site provides users with up-to-date information on issues that will affect biomedical research. It also features a link to a special Take Action section that allows APS members to send letters to Congress and the President on

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Front: Kim Barrett, Hannah Carey, J.R. Haywood, Celia Sladek, Dale Benos; Middle: Barbara Horwitz, Jo Rae Wright, Gerald DiBona, Martin Frank; Back: Douglas Eaton, Steve Hebert, John Hall, Robert Carroll, Mordecai Blaustein

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current issues through the use of special software. This feature is available in the Members Only section on the APS Home Page. The legislative action center is accessible at http://www.the-aps.org/pub_affairs/leg_act_cntr/index.htm.

The last part of the Council meeting focused on the 2000 APS Strategic Plan. Executive Director Martin Frank presented Council with a status report of the plan. The report indicated that many of the action items in the Strategic Plan have either been completed or are in the process of being completed. One outstanding item addressed by Council was the formation of a Task Force on Trainees. Council asked Jo Rae Wright, Duke University Medical Center, to chair the task force, and she accepted. Together she and the Council will work to put the rest of the task force in place. The task force will work to get both student and postdoctoral members more actively involved in Society activities.

Additional details of the Council s fall meeting will be presented to the membership at the 2002 APS Business Meeting. The Business Meeting will be held at EB 2002 on Tuesday, April 23 at 5:30 pm. All APS members are invited to attend. ❖

The APS and International Outreach

One of the maxims of our discipline is that our science cannot be encumbered by national boundaries. Physiological information and knowledge flows freely between scientists in the US and colleagues around the world through scientific interactions at meetings and the publication of research in scientific journals. Throughout its existence, the APS has worked to uphold that view through societal efforts and our participation in the International Union of Physiological Sciences (IUPS).

During the Presidency of Harvey Sparks (1987), the Society turned its attention to Africa, helping with the founding of the African Association of Physiological Sciences and providing subscriptions to the Society s journals through the AAAS Sub-Saharan Africa journal donation program. In 1988, Past-President Frank Knox and Executive Director Martin Frank traveled to the Soviet Union to sign a bilateral exchange agreement with the leadership of Pavlov s All-Union Physiological Society. Under the agreement, APS arranged for exchange visits between physiologists from the US and USSR. The Society s continued its support of physiologists in the former Soviet Union and Eastern European countries after the breakup of the Soviet Union through the donation of our journals directly to institutions and through our participation in a journal program supported by the Soros Foundation. With the development of the Society s online journal program, these efforts have become easier as institutions in developing countries have developed the infrastructure to receive online journals.

In 1999, the Society s efforts were redirected to focus on the needs of colleagues in Latin America. At that time, Hector Rasgado-Flores took over as the Chair, International Physiology Committee and influenced the committee members and the APS Council to direct the Society s attention to Latin America. Previously, the Society had focused on sending our journals to institutions in Latin America and representatives to the meetings of the Association of Latin American Physiological Societies (ALACF). However, under the new Latin American Initiative, the APS was seeking to do more with the goal of strengthening ties between APS, our sister physiological societies in Latin America, and physiologists working throughout the Americas. It was the Committee s view that the US and Latin-American countries would benefit enormously from closer ties and that such efforts were timely and made both geographical and historical sense. The Committee also expressed the view that there were a great many talented students and scientists in Latin America who would benefit from such interactions.

While the International Physiology Committee had initially sought a larger program, the Council decided to start relatively small, allocating $20,000 annually to the Latin American Initiative and requesting that the Committee use the funds to support up to four courses/workshops/symposia per year to be held in Latin American countries with the participation of APS members. It was expected that the sessions would focus on the physiological sciences, broadly defined, and be designed to encourage the participation of students in the program. In addition, the APS invited the ALACF to sponsor a symposium at the Experimental Biology meeting.

Since the programs inception, the Society has approved funding for eight courses/workshops held in five Latin American countries. A full listing of approved programs is included below.

As noted by Mark Opp, University of Michigan, and organizer of a symposium held in Sao Paulo, Brazil, their session attracted 43 registered participants, most of whom were students that do not have the opportunity to travel to international meetings. One of the goals of the Latin American Initiative is to foster collaborative efforts between physiologists of the Americas. In order to meet this goal, Opp held a roundtable discussion at the meeting in Brazil to discuss the development of a program by which students from Brazil would spend short periods (one to three months) visiting laboratories in North America. According to Opp, these discussions are likely to lead to student exchange,

thus providing a direct measure of the degree to which our symposium was a success and met the objective of the Latin American Initiative.

Similarly, Reinaldo DiPolo organized a training course held in Mochima, Venezuela that attracted 31 students and 30 faculty members. The main objective of the course was to allow Latin American students to obtain updates on topics of basic research in biophysics and physiology, with an emphasis on how molecular, biological and electrophysiological techniques can be used to unravel the structural properties of plasma membrane proteins associated with ionic channels, counter and co-transporters, and ion ATPases.

The Society is pleased to be able to contribute to the enhancement of the physiological sciences throughout the Americas. If you or your colleagues have suggestions for future initiatives or would like to apply for support under the Latin American Initiative, please contact Hector Rasgado-Flores (Hector.Flores@finchcms.edu) or Martin Frank (mfrank@the-aps.org). Information about the Latin American Initiative can be found at http://www.theaps.org/awards/society.awd_ltn_amer_init.htm. The deadline for applications under the Latin American Initiative is **March 1, 2002.** ❖

Martin Frank

Latin American Initiative Awards

2002

Patricia E. Molina; LSUHSC, New Orleans, organizer of course on Advances in Physiology; Impact on our Understanding of Health and Disease hosted by the Medical School of Universidad Francisco Marroquin, Guatemala

Claudia Capurro, Buenos Aires, Argentina; and Guillermo Whittembury, Caracas, Venezuela, organizers of a workshop on New insights in water transport across cells and membranes: Structure, function and regulation hosted at the International Congress of Biophysics, Buenos Aires, Argentina

Mario Parisi, Buenos Aires, Argentina, organizer of a workshop on Volume regulation in animal cells and in plant vacuoles hosted at the International Congress of Biophysics, Buenos, Aires, Argentina

2001

Mario Amzel, Johns Hopkins University, organizer of a course on Molecular Modeling of Macromolecules, hosted by the Institute of Biotechnology, Universidad Autonoma of Mexico (UNAM), Mexico

Mark R. Opp, University of Texas Medical Branch at Galveston, organizer of a symposium on Stressor-Induced Alterations in Sleep, hosted by Department of Psychobiology, Universidade Federal de Sao Paulo, Brazil

Tania Zenteno-Savin, Center for Biological Research, Mexico, organizer of a workshop on Comparative Aspects of the Oxidative Stress in Biological Systems, hosted by the Center for Biological Research, La Paz, Baja California, Mexico

Reinaldo DiPolo, Department of Biophysics, IVIC, Venezuela, organizer of a course on Mechanisms of Ion Transport Across Cell Membranes, hosted by Instituto Venezolano de Investigaciones Cientificas (IVIC)

2000

Rafael Rubio, Faculty of Medicine, UASLP, San Luis Potosi, Mexico, organizer of a symposium entitled Paracrine, Cytokine, and Hormonal Factors Involved in Cardiac Function and Remodeling at the XX Latin American Physiological Society Congress, Cancun, Mexico

Blaustein Receives ACDP Distinguished Service Award

Donald M. Bers, President of the Association of Chairs of Departments of Physiology (ACDP), presented the ACDP s highest award, the Distinguished Service Award, to Mordecai P. Blaustein, former ACDP President, during the organization s recent fall meeting in Los Cabos, Mexico. The following are Bers remarks during the presentation, which was followed by a multi-media presentation by Jon Lederer and produced by him, friends, family, and members of Blaustein s department at the University of Maryland, Baltimore Campus.

We are honoring Mordecai P. Blaustein of the University of Maryland in Baltimore this evening for his illustrious service to ACDP, to science, and to physiology. He joins a long list of distinguished Chairs in receiving this award. Mordy served as ACDP s Public Affairs Officer from 1994 to 1996, as President-elect in 1997, as President in 1998, and as Chairman of the Board of Directors in 1999.

Mordy Blaustein was born in New York City, has been married to his wife Ellen for 42 years, and has two children, Laura and Marc. Indeed, this award goes to Ellen too, as we all know how much patience and support we Chairs require.

He earned his Bachelor s degree with honors in 1957 from Cornell University and his MD degree in 1962

Donald M. Bers, President of the ACDP, presents the Distinguished Service Award to Mordecai Blaustein.

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from Washington University School of Medicine in St. Louis. He went on to Boston City Hospital for his internship and from 1963 to 1966 was a Medical Research Officer with the United States Naval Medical Research Institute in Bethesda, MD. From 1966 to 1968 he was an NIH Special Fellow at the University of Cambridge in England. From 1968 to 1975 he held the position of Associate Professor of Physiology and Biophysics at Washington University and from 1975 to 1980 was named Professor of Physiology and Biophysics at that same institution. Mordy has been Chair of the Department of Physiology at the University of Maryland since 1979 (22 years) and is also a Professor in the Department of Medicine there. In 1985 he was named Scientific Director and Chairman of the Executive Board of the University of Maryland s Hypertension Center.

Mordy s dedication to service to professional societies extends beyond his meritorious service to ACDP. He has served the American Physiological Society as a Councillor from 1992 to 1995, as a member of the Society s Finance Committee from 1995 to 1998, and since 2000 as Finance Committee Chair, a position he will hold until 2003. In addition, Mordy is serving on the Finance Committee for the Biophysical Society, a position he will also hold until 2003. This year he was named Councilor for the Biophysical Society, a position he will hold until 2004. Mordy also represented ACDP on the Council of Academic Societies. He has also organized numerous professional meetings and symposia (including one this past October when he served as a Member of the Organizing Committee for APS s Fourth International Conference on Sodium-Calcium Exchange in Banff, Canada).

Throughout the course of his career Mordy has had consistent research grant support. He currently is Principal Investigator on two NIH grants, one in its 16th year investigating Ca and Na transport in vascular smooth muscle and the other in its 22nd year investigating Na and Ca signaling in glia and neurons. There is a long list of distinguished individuals who trained with him and who went on to make their own major contributions to physiological research and education. His bibliography includes more than 200 papers, beginning with five papers in 1966 (including one in *Science*) and nine in 2000. He is still very active and continues to make major contributions to the field.

In summary, Mordecai Blaustein s esteemed career is quite remarkable. It is my great privilege to express our Association s appreciation and deep gratitude to him for his contributions in science, education, service, and academic leadership. It gives me great pleasure to award the ACDP Distinguished Service Award to Mordy Blaustein. ❖

Chapter News

Ohio Physiological Society Annual Meeting Report

The 16th annual meeting of the Ohio Physiological Society (OPS) was held on November 9, 2001 at Ohio University, Athens, OH. The theme of the meeting was Comparative Aspects of Membrane Biology. An initial announcement of this meeting was done by e-mailing members of the American Physiological Society residing in Ohio, as well as Chairs of Departments of Physiology, Biology, or related disciplines. Later a brochure was mailed out to these same people. A website was created which provides details about OPS and the meeting (http://oak.cats.ohiou.edu/~chamberl/ops/ops.html).

A total of 55 people (including speakers) attended the meeting. Attendees came from several institutions around the state of Ohio: Bowling Green State University, University of Dayton, Wright State University, University of Cincinnati, Miami University, Northeastern Ohio Universities College of Medicine (NEOUCOM), and Ohio University. The meeting was held in a lovely old chapel on the main green. With the exception of a couple of computer glitches during the Power Point presentations, the morning session of talks went smoothly. Unfortunately, I had not reserved the use of the organ, so Peter Lauf could not entertain us as we waited a few minutes for the computer problems to be solved!! The talks spanned a wide range of topics on membrane biology and generated many questions from the audience. A sit-down lunch was held at the student union building, which provided an opportunity for meeting attendees to get to know one another and discuss their research. After lunch, the American Physiological Society/Ohio Physiological Society keynote speaker presented his talk. John Crowe delivered a wonderful and fascinating talk about membranes in the dry state. Following the keynote address, there was a lively poster session in the lower floor of the chapel. I think this and other OPS meetings have been very effective in promoting interactions among the Ohio physiologists. In addition, I think these meetings make it clear that physiological research takes place across the state of Ohio in institutions both large and small, and in institutions with and without physiology departments, per se.

A business meeting was held at the end of the meeting in which the locations of the next two meetings, NEOUCOM (2002) and Case Western Reserve University (2003), were announced. The president-elect is Hans Folkesson, NEOUCOM.

The 16th annual meeting of the Ohio Physiological Society would not have been possible without the generous support from the Ohio University College of Arts and Sciences, Ohio University Office of Research, and the American Physiological Society. ❖

Mary Chamberlin
President
Ohio Physiological Society

New Regular Members

*Transferred from Student Membership

Nader G. Abraham
New York Medical College
Tatsuya Asai
Fukui Univ., Japan
Mohammad Asghar
Univ. of Houston
Richard Lambert Auten
Duke Univ., NC
Brian Peter Bagatto*
Univ. of Akron, OH
Bruce Palmer Bean
Harvard Medical School, MA
Mercedes Belcells-Camps
Massachusetts Inst. of Technology
Joel Hills Benington
St. Bonaventure Univ., NY
Istvan Bonyhay
Beth Israel Deaconess Med. Center, MA
James G. Brasseur
Pennsylvania State Univ.
Nancy Joan Brown
Vanderbilt Univ., TN
Harold Burton
Washington Univ.
Adelino V.M. Canario
Univ. Do Algarve, Portugal
Robert Carter*
Univ. of North Texas
Jaehwa Choi
Univ. of Mississippi
Niels Juel Christensen
Herlev Univ. Hospital, Denmark
Jody C. Culham
Univ. of Western Ontario
Brian S. Cummings
Medical Univ. of South Carolina
Jonathan K. Ehrman*
Henry Ford Health System, MI
Eliseo Alberto Eugenin
Albert Einstein College of Medicine, NY
Zheng Fan
Univ. of Tennessee
Terence G. Favero
Univ. of Portland, OR
Jason David Gardner
Auburn Univ.
Bret H. Goodpaster*
Univ. of Pittsburgh
Steven S. Guest
Santa Clara Valley Med. Ctr., CA
Sohrab Hajizadeh
Tarbiat Modarres Univ., Iran
Harriet Wehner Hanlon
Falls Church City Schools, VA
Per-Olof Hasselgren
Univ. of Cincinnati, OH
Lisa Colleen Hazard
Univ. of California, Santa Cruz
Kyle Kenji Henderson*
Univ. of Missouri, Columbia
Oscar Herreras
Hosp. Ramon Y Cajal, Spain
Caryl Elizabeth Hill
John Curtin Sch. of Med. Res., Australia
Maria T.E. Hopman
Univ. Med. Ctr. Nymegen, Netherlands
Fay Babling Horak
Oregon Health & Sciences Univ.
Matthew Wade Hulver
East Carolina Univ.
Mai-Lan Ngoc Huynh
Univ. of Colorado
Danny O. Jacobs
Creighton Univ., NE
J. L. Kirkland
Boston Univ. Med. Ctr., MA
James F. Knudsen
FDA, CDERI, DNDP
Thomas A. Krahn
Private Practice, MA
Jeffery M. Kramer
Univ. of Illinois, Urbana-Champaign
Ronald Bruce Langdon
Seton Hall Univ., NJ
Helene M Langevin
Univ. of Vermont
Herve P. Lefebvre
National Veterinary School, France
Edward Joseph Lesnefsky
Case Western Reserve Univ., OH
Jani Elizabeth Lewis
SUNY, Geneseo
Jiang Li
Univ. of California, San Franciso
Peng Li
Univ. of California, Irvine
Christine A. Martin
Univ. of Maryland
Todor N. Mazgalev
Cleveland Clinic Foundation, OH
Robert B. McCall
Pharmacia, NJ
Margaret Merryl McCarthy
Univ. of Maryland
Paul McDonough
Kansas State Univ.
Cheryl C. Miller
Univ. of Georgia
Mohammad Ali Newaz
Texas Southern Univ.
Walter Hayes Newman
Mercer Univ., GA
Wen-Ting Ouyang
Georgetown Memorial Hospital, DC
Vladimir Parpura
Univ. of California
Jitandrakumar R. Patel
Univ. of Wisconsin, Madison
Rakesh Patel
Univ. of Alabama, Birmingham
Theo Louis Peeters
Univ. of Leuven, Belgium
Edison Perdomo
Minnesota State Univ., Mankato
Zhong Ming Qian
Hong Kong Polytechnic Univ., Hong Kong
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Ayman I. Sayegh
Tuskegee College, AL
Paul Schaeffer*
Washington Univ.
Helen Edith Scharfman
Helen Hayes Hospital, NY
Rajesh Chandra Sharma
Surat Municipal Med. College, India
Xiaorui Shi
Oregon Hearing Research Ctr.
Anthony Louis Sica
SUNY, Downstate Medical Center
Daniel Concord Sigg
Univ. of Minnesota
Tonous Nabih Silfani*
Sankyo Pharma, Cuyahaga Falls, OH
Ruchira Sood
Stanford Univ., CA
Hong Sun
Univ. of Nebraska
Wanchun Tang
Inst. of Critical Care Medicine, CA
Glenn Jeffery Tattersall
Univ. of British Columbia
Patti J. Thureen
Univ. of Colorado
Michael E. Tschakovsky
Queen s Univ., Canada
Ingvald Mikal Tyssebotn
SUNY, Buffalo
Fredrik Ullen
Karolinska Inst, A.Lindgren Hosp., Sweden
Anton Usaj
Univ. of Ljubljana, Slovenia
Mike Van Rollins
Univ. of Iowa

Yosef Yarom
Hebrew Univ., Life Sciences Inst., Israel
Gisele Tchuisseu Youmbi
Case Western Reserve Univ., OH
Dennis Paul Valenzeno
Univ. of Kansas
Xiaoping Wan
Case Western Reserve Univ., OH
Stephen Lee Wasmund
Dallas VA Medical Center, TX
Anthony R. West
Univ. of Pittsburgh, PA
Joseph M. Wu
New York Medical College
Haoliang Xu
Univ. of Illinois, Chicago
Meifeng Xu
Univ. of Cincinnati, OH
Chunmei Yang
Lexicon Genetics Inc, TX

New Student Members

Peter J. Adhihetty
York Univ., Canada
Luis Eduardo Almeida
Univ. of Maryland, Baltimore
Behrang Amini
Univ.of Texas, Houston
Johnnie B. Andersen
Univ.of Aaruus, Denmark
Lida A. Anestidou
Univ. of Texas, Houston
Shailendra Anoopkumar-Dukie
Rhodes Univ., South Africa
Siobhan M. Armstrong
Univ. of Michigan
Joseph Artale
SUNY, Stony Brook
Debra Page Baluch
Arizona State Univ.
Jamie Louis Barger
Univ. of Alaska, Fairbanks
Ismaeel M. Bin-Jaliah
Univ. of Birmingham, AL
Mark Robert Britton
Wayne State Univ., MI
Anissa Joy Brown
Univ. of Delaware
Candice M. Brown
Duke Univ., NC
Emanuela M. Bruscia
Univ. of Vermont
Mirela Cerghet
Wayne State Univ., MI
Alistair Jon Champman
Univ. of Arizona
Debika Chatterjea
Univ. of Illinois, Chicago
Hong Cheng
Univ. of Michigan
Todd Michael Collura
Florida Atlantic Univ.
Gloriann Colon
Univ. of Puerto Rico, Arecibo
Kuldip Dave
MCP Hahnemann Univ., PA
T. C. Der
Arizona State Univ.
Pauline Dergham
Univ. De Montreal, Canada
Giovana Seno Di Marco
Univ. Federal De Sao Paulo, Brazil
Long Ding
Univ. of Pennsylvania
Christine Ecker
Inst. of Psychiatry, England
Taffeta Marie Elliott
Columbia Univ., NY
Manuel Ivan Estrada
Fac. De Medicina, Univ. of Chile, Chile
Jon Robert Fee
Furman Univ., SC
Gayani S. Fernando
MCP Hahnemann Univ., PA
Steven M. Finckbeiner
Louisiana State Univ.
Katharine Emily Forth
Univ. of Houston, TX
Kristen L. French
Medical Univ. of South Carolina
Kenneth Bradley E. Gagnon
Wright State Univ., OH
Damien Garbett
Dickinson College, PA
JoAnne Garvin
Univ. of North Carolina, Chapel Hill
Shanaz Adi Ghandhi
City College of New York
Tina M. Grieco
Northwestern Univ., IL
Jutatip Guptarak
Texas Woman s Univ.
Bryan Christopher Hains
Univ. of Texas
Michele B. Halvorsen
Univ. of Illinois, Chicago
Milton Harrison Hamblin
Meharry Medical College, TN
Linda Lee Heideman
Rhodes Univ., South Africa
Tammi Sue Hildreth
Kansas State Univ.
Matthew David Hind
King s College London, England
Dao Hong Ho
Texas A&M Univ.
Muhsinau Lateefau Holmes
Emory Univ., GA
Mildred A. Hoover
California State Univ., Fullerton
Michael Hung Hsu
Univ. of Illinois
Danielle Leteshe Hughes
Winston Salem State Univ., NC
Julie Hwang
Univ. of California, Riverside
Kelly Anne Hyndman
Univ. of Florida
Isabella Irrcher
York Univ., Canada
Inneke Miesha Jackson
Florida A&M Univ.
Dorothy Mae Jones
Univ. of Michigan
Michelle L. Jones
Univ. of Illinois, Chicago
Prasad Ramesh Joshi
Univ. of Louisiana, Monroe
Christopher D. King
Univ. of Florida
Tyson Rand Kinnick
Univ. of Arizona
Micki E. Kobylk
Univ. of Alaska, Fairbanks
Christina Koutasri
Harokopio Univ., Greece
Matthew A. Kreitzer
Univ. of Illinois, Chicago
Gary S. Laevsky
Univ. of Connecticut
Zaynsb Yusuf Lambat
Rhodes Univ., South Africa
Kwong-Joo Leck
Australian National Univ, Australia
Paul Robert Lee
Maryland Psychiatric Res. Ctr.
Naruemon Leelayuwat
Nottingham Univ., UK
Eric H. Leung
Univ. of Chicago, IL
Martin Levesque
Lava Univ., Canada
Qiang Li
Univ. of Iowa
Grace Alexandra T. Liu
Texas A&M Univ.
Huifei Liu
Univ. of North Carolina, Chapel Hill
Ying Liu
Univ. of Utah
Stephanie S. Loranger
Washington Univ.

Precious Lung
Univ. of Cambridge, England
Christina P. Lynn-Bullock
Georgia State Univ.
Cathyryne K. Manner
Univ. of California, San Diego
David Marsolais
CHUL Research Ctr, Canada
Lakus Mathiak
Univ. of Tuebingen, Germany
Craig O Neill Mattern
Ohio State Univ.
Kate D. Merritt
Wake Forest Univ., NC
Susanna Mierau
Oxford Univ., England
Robert A. Neff
George Washington Univ., DC
Melody Ng
NIH, Bethesda, MD
Tuyet Nhu Nguyen
Univ. of Iowa
Jason Lance Niehaus
Medical College of Georgia
Ulla Vig Nissen
Univ. of Oslo, Norway
Gabreila Novak
Univ. of Toronto, Canada
Justus D. Ortega
Univ. of Colorado
Johannes Overgaard
Univ. of Aarhus, Denmark
Carlos Alberto Palencia
Univ. of Illinois, Chicago
Erlick A. Pereira
Univ. of Oxford, England
Dianne A. Petgrave
Univ. of Connecticut
Melody D. Phillips
Purdue Univ., IN
Julia Blanche Pitcher
Alelaide Univ., Australia
Paulo P. Provenzano
Univ. of Wisconsin
Christopher T. Robertson
Indiana Univ.
Amsale B. Robi
Long Island Univ.
Jed D. Robinson
Univ. of Colorado, Boulder
Anne C. Roc
Univ. of Pennsylvania
Carmencita Rojas-Cartagena
Ponce School of Med, Puerto Rico
Dawna Salter
Univ. of Southern Calif., Los Angeles
Michael Todd Sapko
Univ. of Maryland, Baltimore
Jennifer Mayberry Sasser
Medical College of Georgia
Gerwin Schalk
New York State Dept. of Health
Cary Scheiderer
Univ. of Alabama, Birmingham
Matthew John Schmid
Univ. of Texas, Austin
Arron R. Seitz
Boston Univ., MA
Teresa Inez Shakespeare
SUNY, Stony Brook
Denise Smith
Kent State Univ., OH
Timothy J. Stalker
Thomas Jefferson Univ., PA
Lee Patrick Steffen
Univ. of Nebraska Med. Ctr.
Irina A. Strigo
McGill Univ., Canada
Asha Suryanarayanan
Univ. of Louisiana, Monroe
Joseph J. Tam
McGill Univ., Canada
Rogan Barnes Tinsley
Flinders Univ., Australia
Anne Elizabeth Todgham
Univ. of British Columbia, Canada
Phat Tran
Texas Tech Univ. Hlth. Sci. Ctr.
Heather L. Trantham
Medical Univ. of South Carolina
Briedi Rae Treece
Washington State Univ.
Susan K. Tsiuitse
Univ. of Toledo, OH
Matthew A.I. Ua Cruadhlaoich
Yale Univ., CT
Ann Renee Van Gorder
Florida Atlantic Univ.
Srinivasan Venkatachalan
Univ. of Louisiana, Monroe
Bjorn Egil Vikse
Univ. of Bergen, Norway
Jiaxu Wang
Univ. of Toronto, Canada
Wang Wang
Lehigh Univ., PA
Yu Wang
Univ. of Nebraska Medical Center
Ahren Warf
Furman Univ., SC
Christine Marie Werk
Concordia Univ., Canada
Jonathon P. Wetherington
Med. College of Georgia
Lindsay Beth Wichers
Univ. of North Carolina
Brad W. Wikins
Univ. of Oregon
Wendy Wilson
Washington State Univ.
Chia-Wen Wu
Univ. of Rochester, NY
Hui-Bing Wu
Hunter College, NY
Rinah T. Yamamoto
Tufts Univ., MA
Ana-Maria Zagrean
Carol Davila Univ. of Med & Pharm, Romania
Li Zhen
New York Univ. Med. Ctr.
Judy P.Q. Zhu
Hunter College, NY

New Affiliate Members

Michael A. Coyle
VivoMetrics, Inc, CA

Ted Allan Heckendorn
Sinclair Comm. Coll., NY

Recently Deceased Members

Ashton Graybiel
Pensacola, FL
(deceased since,1995, recently notified)

Joseph R. Logic
Birmingham, AL

Rafael Lorenta de No
Tucson, AZ
(deceased since 1990, recently notified)

Harold Feinberg
Chicago, IL
(recently notified)

APS's Legacy to Science

APS Publications and Cadmus Journal Services staff help pack bound volumes of the journals to be sent to Cadmus for scanning and placing online on the HighWire Press site. This is the first phase of APS s plan dubbed the Legacy Data project to have all journal content back to the first issue of *The American Journal of Physiology*, published in 1898, online in three years.

The full-text articles will appear online as a PDF, or an image of each journal page, but will be searchable due to an OCR optical-character-reader scanned document residing in the background. Like any other online journal article that APS publishes, the articles will be linked to PubMed and, like all APS journal content more than 12 months old, will be available to all free of charge on the Web.

The Legacy Data project will take place in three phases: back to 1985 by the summer of 2002, back to the beginning of Medline/PubMed (app. 1966) in 2003, and back to the beginning of APS publication history (1898) in 2004. The bound journals are taken apart and scanned page by page, destroying the bound journal in the process. As we get into the second and third phases, we may be requesting members to donate print copies of journals to fill in gaps and to keep one complete print set in the APS library. If you have early issues of the Society s journals available for donation, please contact mreich@the-aps.org. ❖

Deb Kreiser, Cadmus Journal Services, and Misty Highley and Carolyn Villemez, APS, pack the first set of APS journals to be archived.

APS Web News

The Popularity of the APS Website Continues to Grow

The APS website http://www.The-APS.org has grown to eight million hits in 2001, with an average of 22,000 hits per day. Our most popular pages are the Publications section followed by the APS Home Page and the Education Section. With the redesign of the website (completed in September 2000) and the Members Only section (completed in January 2001) our statistics, along with positive feedback received in our web master mailbox, reveal to us that we are providing an important tool to our members.

In our continuing efforts to enhance our web site, many new features have been added, while other services are still under development and will be implemented some time in 2002. Among these new features are:

• The Legislative Action Center where time-sensitive legislative information may be posted, and, as a member, you may also access the Take Action section where you may write to Congress.

• The periodic email newsletter to AllAPS calls attention to time sensitive news and topics of interest concerning the Society. This has proven to be a very useful tool and has been very well-received.

• The completion of our E-Commerce project by mid-year will allow us to accept online payment for membership dues, journals, publications and other products.

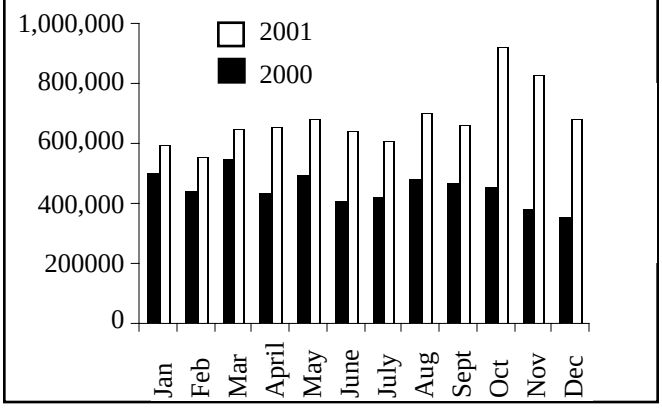
• A new Online Membership Application system will streamline the entire membership application process by automating the sponsor verification and creating the appropriate reports for the review process.

• The redesigned Careers section will provide materials to facilitate the transition from student to professional physiologist and improve access to information about postdoctoral and other academic and non-academic positions.

• The Archive of Teaching Resources (available in early 2002), is a collaborative effort with 11 other biological societies to make teaching materials accessible to biological educators in undergraduate, graduate, and professional schools.

In short, 2001 has been a very exciting year for all of us involved in the development of the APS website. Our role is to anticipate the needs of our members and to assist you by providing useful resources. If you have suggestions please contact us at webmaster@the-aps.org. ❖

Figure 1. Successful APS web hits 2000-2001.



APS Undergraduate Fellow Receives Rhodes Scholarship

Sunita Puri, an APS 2001 Undergraduate Summer Research Fellow (UGSRF), was recently named a 2002 Rhodes Scholar. As one of the 32 scholars selected, Puri successfully competed against 318 colleagues for the award.

Puri, an undergraduate student from Yale University, participated in the UGSRF program with her host, P. Darrell Neufer, from the John B. Pierce Laboratory, Yale University School of Medicine.

Her research project investigated the role of UCP-3 gene expression in regulating and reflecting metabolic changes in rats. UCPs are mitochondrial proteins that uncouple respiration from ATP synthesis and are believed to play a role in energy expenditure. Expression of UCP3 mRNA is dramatically regulated by a number of metabolic challenges (including exercise, food intake, diet), providing evidence that regulation of the UCP3 gene is an adaptive response. However, the molecular basis for the metabolic regulation of UCP3 in vivo and the associated impact on metabolic balance are controversial and paradoxical.

Puri is originally from Los Angeles and is currently a senior majoring in cultural anthropology. She recently also won the Rivers Prize, a national undergraduate paper prize sponsored by the Society for Medical Anthropology, for a paper on medical issues related to domestic violence that will be published in *Medical Anthropology Quarterly*. This research was supported by five fellowships from Yale University and the Ford Foundation. Annually, Puri has given a lecture to first-year Yale medical students on eating disorders in minority communities and how physicians can best treat those patients.

Rhodes Scholars are chosen on the basis of high academic achievement, integrity of character, a spirit of unselfishness, respect for others, potential for leadership, and physical vigor. The Rhodes Trust pays all college and university fees, provides a stipend to cover necessary expenses while in residence in Oxford, as well as during vacations, and transportation to and from England. ❖

Sunita Puri

APS Awards

The APS sponsored awards are plentiful, but in order to be considered, don t forget to submit the application information before the deadline!

Award	*Next Deadline*
John F. Perkins, Jr., Memorial Fellowships	May 15
William T. Porter Fellowship Award	July 15
Research Career Enhancement Awards	October 15
Teaching Career Enhancement Awards	October 15
Shih-Chun Wang Young Investigator Award	November 1
Arthur C. Guyton Awards in Integrative Physiology	November 1
Giles F. Filley Memorial Awards for Excellence in Respiratory Physiology and Medicine	November 1
Lazaro J. Mandel Young Investigator Award	November 1
Procter & Gamble Professional Opportunity Awards	November 6
Caroline tum Suden/Francis A. Hellebrandt Professional Opportunity Awards	November 6

Rats, Mice, and Birds Rule Delayed Further

As part of the USDA s FY 2002 funding legislation the agency got the green light from Congress to begin consideration of whether to extend the Animal Welfare Act (AWA) regulations to rats, mice, and birds. The bill contains language permitting the USDA to begin the rulemaking process, but prohibits it from finalizing changes before the fiscal year ends on September 30, 2002.

This lifts the prohibition against such rulemaking that was included in last year s USDA funding bill. Congress forbade the USDA from spending funds during FY 2001 on efforts to change the regulatory definition of animal. This blocked implementation of an out-of-court settlement of a lawsuit brought against the USDA by the Alternatives Research and Development Foundation (ARDF). The ARDF sued in 1999 to compel the USDA to extend its AWA regulations to rats, mice, and birds.

The issue is whether the wording of the AWA statute requires the USDA to issue regulations that cover rats, mice, and birds used in research, education, and testing. The statute, as amended by Congress in 1970, defines animal within the scope of the AWA as any live or dead dog, cat, monkey (nonhuman primate mammal), guinea pig, hamster, rabbit or other such warm-blooded animal, as the Secretary may determine is being used, or is intended for use, for research, testing, experimentation and for other specified purposes. However, ever since implementing regulations for the 1970 amendments were adopted, the USDA has administratively excluded rats and mice bred for research as well as birds. (Wild-caught rats and mice used in research are covered by the regulations.)

The ARDF and several individuals petitioned the USDA in 1998 to end the exclusion. The petitioners argued that excluding these species was arbitrary and capricious, an abuse of agency discretion, and not in accordance with the law. These terms reflect the legal arguments commonly used in seeking to overturn federal agency actions. The ARDF s co-petitioners included the head of an in vitro testing company, an ethicist, and two professors of biology and pharmacology who have developed alternative teaching and in vitro testing methods. The petitioners argued that the lack of USDA regulation of these species means that researchers are not required to consider alternatives to their use, and that this has caused damage to the petitioners financial and professional interests.

The USDA published the ARDF petition in the Federal Register on January 28, 1999, and asked for public comments. The USDA requested comments on several questions. These included whether the definition of animal should be revised to include laboratory rats, laboratory mice, and birds, or any of the three; whether the USDA s Animal Care unit should regulate the care provided to these species in all circumstances covered by the AWA or in certain circumstances, such as use in research only ; how many rats, mice, and birds might the USDA be asked to regulate if the change in the definition was made; and what should be the USDA s enforcement priorities if the regulation of rats, mice and birds were added to its workload.

Dissatisfied with the agency s failure to take more decisive action, the ARDF filed suit in March 1999, seeking to compel the USDA to regulate laboratory-bred rats and mice as well as birds. The Humane Society of the United States and the Animal Legal Defense Fund had brought a similar suit against the USDA in 1990. That case resulted in an initial ruling in favor of the plaintiffs in 1992, that was overturned on appeal in 1994 because the higher court found that none of the plaintiffs met the legal tests necessary to give them standing to challenge USDA enforcement of the AWA. However, while the 1999 ARDF suit was underway in the courts, a decision was handed down in a separate challenge to AWA regulations in which an individual plaintiff was granted standing to sue.

In June 2000, Judge Ellen Huvelle of the US District Court for the District of Columbia issued a ruling in favor of the ARDF in the suit. The National Association for Biomedical Research (NABR) sought to join the suit on behalf of research community interests in the case during the appeal phase. However, rather than appealing, the USDA began negotiating with the ARDF for an out-of-court settlement. NABR and others then sought to participate in the settlement talks, but these requests were denied. An out-of-court settlement was reached on September 25, 2000, and on October 6, Judge Huvelle agreed to dismiss the suit. According to the USDA Animal Care home page, the terms of the settlement agreement require the USDA to initiat[e] and complet[e], in a reasonable time, a rulemaking on the regulation of rats, mice, and birds under the AWA. The notice goes on to say, Beyond this condition, final results and timeframes are not specified. The settlement agreement also requires the USDA to make periodic reports to the plaintiffs attorneys on its progress.

It was this rulemaking that was put on hold during FY 2001. With the FY 2002 funding legislation in place, it is anticipated that USDA will proceed with the rulemaking process. Researchers should be prepared on

Wisconsin researchers Hannah Carey (left) and Joseph Kemnitz (right) met with Senator Herbert Kohl (D-Wisc.) during a July 11, 2001 advocacy day on Capitol Hill organized by the APS.

short notice to respond to a request for comments on extending AWA regulations to rats, mice, and birds. In response to the USDAs 1999 request for comments, the APS expressed concern that at major research institutions, USDA regulation of rats, mice, and birds duplicates the existing oversight protection provided by the PHS Policy on Humane Care and Use of Animals and voluntary accreditation through the Association for the Assessment and Accreditation of Laboratory Animal Care, International. AWA regulations would add no benefit in terms of improving animal welfare and would at the same time be administratively burdensome and costly for both the USDA and research facilities to implement.

Activists' Funding Remains Strong; PCRM, PETA Hide Fundraising Costs

Two prominent animal activists set up a foundation in 1993 to undertake fundraising on their organizations behalf. Physicians Committee for Responsible Medicine (PCRM) founder Neal Barnard and People for the Ethical Treatment of Animals (PETA) President Ingrid Newkirk comprise a controlling interest of the board of the Foundation for the Support of Animal Protection (FSAP).

The existence of this foundation was one of the most striking revelations in the 12th annual Who Gets the Money? feature published in *Animal People* in November 2001. Using information from IRS financial disclosure statements of the three organizations, *Animal People* concluded the major purpose of [FSAP] appears to be to enable PETA and PCRM to evade public recognition of their relationship and the real extent of their direct mail expenditures.

Animal People is an independent monthly publication that covers animal advocacy and protection activities. It regularly reports on extravagant salaries, inappropriate uses of funds, and excessive fundraising costs by activist organizations. The annual Who Gets the Money? investigative report is compiled from financial data that nonprofit organizations must file annually with the IRS. The current edition covers 148 animal protection charities operating in the US and abroad along with eight opposition groups, such as Americans for Medical Progress (AMP) and the National Association for Biomedical Research (NABR). Information comes mainly from IRS Form 990 filings for the year 2000.

In addition to disclosing the existence of FSAP, *Animal People* documented the continuing success of self-appointed animal advocacy organizations in amassing financial support for their activities. Some groups that oppose the use of animals in research receive donations through the Combined Federal Campaign or local United Way organizations. For more information, see Are You Giving Money to Undermine Medical Research? (*The Physiologist*: Vol. 44, No. 6, December 2001, p. 414.) This article is also available on line at http://www.the-aps.org/pub_affairs/leg_act_cntr/news/money.htm.

The *Animal People* report is intended to assist donors sympathetic to animal-oriented causes to determine the financial strength of these organizations programs; how much of their resources are being used for fundraising and other overhead costs; and whether they are accumulating assets or providing services with the funds they receive. In assessing the proportion of budget utilized for overhead costs, *Animal People* uses a benchmark developed by the now-defunct National Charities Information Bureau (NCIB). The NCIB recommended that charities spend at least 60% of their budgets on programs excluding direct mail appeals. According to *Animal People*, This standard is stricter and more indicative of priorities than IRS rules, which allow charities to call some direct mail costs program service under the heading of public education. The accompanying table shows budget, program expenditures, assets, and overhead claimed as well as *Animal People s* estimation of adjusted overhead percentage that includes the cost of public education mailings that also contained requests for donations.

FSAP was incorporated in 1993. Its sole purpose, according to its IRS

(continued on page16)

Table 1. 2000 Funding of Animal Activist Organizations

Organization	Budget	Programs	Overhead	Total assets	Overhead Claimed	Adjusted overhead
American Antivivisection Society	$ 1,235,214	$ 1,151,82	$ 83,332	$ 11,230,110	7%	7%
Animal Legal Defense Fund	3,133,399	2,497,396	636,003	2,572,436	20%	57%
Doris Day Animal League	2,743,811	2,271,016	472,795	803,637	17%	71%
Foundation to Support Animal Protection*	2,554,996	232,524	2,122,472	7,733,414	83%	83%
Friends of Animals	4,764,001	4,071,602	692,399	7,064,794	15%	24%
Humane Society of the US	50,431,797	29,148,054	16,172,403	106,840,986	32%	47%
In Defense of Animals	1,841,705	1,502,034	339,671	732,824	18%	23%
National Anti-Vivisection Society	2,620,228	2,022,995	597,273	8,763,579	23%	40%
People for the Ethical Treatment of Animals*	17,668,699	14,631,410	3,037,289	4,091,700	17%	34%
Physicians Committee for Responsible Medicine*	2,533,289	1,914,808	518,481	237,363	24%	41%

*See accompanying article

(continued from page 15)

Form 990 is to Provide support to various charitable, educational, and scientific organizations specified in the Corporation s Certificate of Incorporation. These organizations are PETA and four of its subsidiaries, the PCRM, and the Washington Humane Society. The FSAP board consists of three people: the PCRM s Barnard (President), PETAs Newkirk (Director), and Nadine Edles (Secretary). Edles address as filed with the IRS is the same as the PCRM s.

Animal People further reports that in fiscal years 1999 and 2000 combined, FSAP raised $7,454,914 in donations and program service revenue, paying the mortgage on the PETA headquarters and leasing the site to PETA. The Foundation apparently did mailings in the names of the beneficiaries and paid $432,524 to PCRM in 2000. It spent $3,487,585 or 89% of its budget, on fundraising and administration and paid salaries totaling $2,102,216.

The bottom line, according to *Animal People* is that If FSAP, PETA, and PCRM were seen as a single fundraising unit, as the existence and activities of FSAP indicates they should be, their spending in 1999 came to $20,391,253; their declared overhead came to $4,053658, 20% of budget; and their overhead if the cost of all direct main containing fundraising appeals were counted as fundraising costs came to $9,633,083: 47% of budget. In the year 2000, their combined spending was $22,756,984, with declared overhead of $5,778,242 (25% of budget), and the overhead total adjusted to include direct mailings with fundraising appeals came to $9,168,478 or 40.3% of budget.

Congress Finalizes FY 2002 Budgets

After months of debate and distractions, Congress completed action on fiscal year (FY) 2002 funding for the National Institutes of Health (NIH) on December 20. Funding for the National Science Foundation (NSF), Veterans Research and the National Aeronautics Space Administration (NASA) was approved in November for the fiscal year that began October 1.

On December 18, House and Senate conferees approved the conference report for the Labor-HHS-Education spending bill, which included funding for NIH. The House approved the measure on December 19, and the Senate followed the next day before Congress adjourned for the year.

Under the agreement, NIH receives a funding increase of $2.99 billion in FY 2002, or 15 percent over its FY 2001 budget. This will bring the total

Table 1. Fiscal Year 2002 Appropriations for NIH Institutions

NIH Institute	FY 2001 Comparable	FY 2002 Request	Conference (FY 2002 Final)	$ Increase	% Increase
NCI	$ 3,737,217	4,177,203	4,190,405	+453,188	+12.1
NHLBI	2,298,664	2,567,429	2,576,125	+277,461	+12.1
NIDCR	306,153	341,898	343,327	+37,174	+12.1
NIDDK	1,303,570	1,457,915	1,466,833	+163,263	+12.5
NINDS	1,176,797	1,316,448	1,328,188	+151,391	+12.8
NIAID	2,062,621	2,330,325	2,347,278	+284,657	+13.8
NIGMS	1,539,903	1,720,206	1,725,263	+185,360	+12.0
NICHD	978,721	1,096,650	1,113,605	+134,884	+13.8
NEI	510,525	571,126	581,366	+70,841	+13.9
NIEHS	502,987	561,750	566,639	+63,652	+12.7
NIA	786,303	879,961	893,443	+107,140	+13.6
NIAMS	396,528	443,565	448,865	+52,337	+13.2
NIDCD	301,069	336,757	342,072	+41,003	+13.6
NINR	105,158	117,686	120,451	+15,293	+14.5
NIAAA	340,537	381,966	384,838	+44,301	+13.0
NIDA	780,827	907,369	888,105	+107,278	+13.7
NIMH	1,106,519	1,238,305	1,248,626	+142,107	+12.8
NHGRI	382,040	426,739	429,515	+47,475	+12.4
NIBIB	1,975	40,206	111,984	+110,009	+557.0
NCRR	817,098	974,038	1,011,594	+194,496	+23.8
NCCAM	89,121	100,063	104,644	+15,523	+17.4
NCMHD	132,044	158,425	157,812	+25,768	+19.5
FIC	50,472	56,449	56,940	+6,468	+12.8
OD	188,346	232,098	235,540	+47,194	+25.1
NLM	246,304	275,725	277,658	+31,354	+12.7
B&F	153,761	236,600	234,600	+80,839	+52.6
Total	20,295,260	23,041,902	23,285,116	+2,989,856	+14.7

NIH budget to $23.28 billion. Nevertheless, the agency s net funding level in FY 2002 decreases due to interagency transfers for administrative and evaluation costs. Under the agreement, $100 million will be transferred to the Global AIDS-Malaria-TB Fund and $297 million will be transferred for studies at other HHS agencies. After these deductions are calculated, the net total for NIH is $22.88 billion, an increase of $2.87 billion or 13.9 percent over FY 2001. An increase of this magnitude is particularly notable given the focus on addressing concerns from the September 11 attacks and the need to pursue the war on terrorism.

The accompanying table outlines appropriations for individual NIH institutions that were provided by the Senate Labor-HHS-Education Subcommittee.

On November 6, 2001, the conferees for the VA/HUD Appropriations Committee approved funding for NSF, as well as the Veterans Medical Research programs and NASA. President Bush signed the bill into law on November 26, 2001 (P.L. 107-73) In the end, Congress adopted the $4.8 billion dollar increase for NSF that was approved by the House. This appropriation was an 8.2 percent increase over FY 2001 and a boost of $365 million over last year s budget and $316 million over President Bush s request respectively. Included in this are:

• $3.6 billion for research and related activities;
• $139 million for major research equipment; and
• $875 million for education and human resources.

While NSF received a substantial increase, VA medical research did not fare quite as well. Veterans Medical and Prosthetic Research was increased by $20 million over FY 2001, bringing FY 2002 funding to $371 million, an increase of 5.6 percent.

For FY 2002, NASAs overall budget is $14.7 billion, a 3.5 percent increase over FY 2001. The newly created Office of Biological and Physical Research, which now houses many of NASAs life sciences programs, will be funded at $714 million in FY 2002. The biology research budget within the office is expected to be $172 million.

AAHRPP Forming Human Accreditation Site Visit Teams

The Association for the Accreditation of Human Research Protection (AAHRPP) is actively recruiting individuals to participate in site visits to institutions seeking accreditation for their human research protections programs, according to Marjorie Speers, Executive Director of this new organization.

Researchers are encouraged to sign up to become site visitors. Accreditation will have an enormous impact on the conduct of human subject research. It is very much in the interest of the research community to be involved in developing approaches to apply regulations and standards.

According to the *Washington Fax*, an online daily science policy publication, AAHRPP is seeking institutional review board (IRB) professionals, researchers familiar with federal regulations, research deans and administrators, public representatives and others involved in human research protection programs to comprise its site visit team.

AAHRPP was incorporated in April 2001 and published a draft set of accreditation standards for comment on October 15, 2001. Initial site visits were scheduled for December 2001 to evaluate human research protections in NIH s intramural research program. Comments on the draft standards along with information gained from the test visits will be used in formulating the final standards. According to Speers, AAHRPP expects to continue piloting its site visitor procedure by examining Clemson University in South Carolina; Summa Health System in Akron, Ohio and one or two more institutions to be determined later. Once the pilot site visits are completed, Speers predicted, it s very possible that by the end of next year, we will be able to announce our first accredited institutions.

The site visit process is the second step toward AAHRPP s accreditation. The first step is for institutions to undertake a self-assessment of their existing human research protection measures using the standards laid out by AAHRPP. It then submits its program description with an application. After the site visit is completed, AAHRPP representatives will put together a report for its council on accreditation. The council will then recommend to AAHRPP s board of directors one of three levels of accreditation: full, provisional or none. This accreditation will be good for three years, but the organization is considering allowing institutions to pay annually so the fee can be built into budgets.

More information about AAHRPP and its activities can be found online at http://www.aahrpp.org.

NIH Issues New Graduate Student Compensation Policy

The National Institutes of Health (NIH) issued a new policy concerning compensation for graduate students supported by NIH research grants and cooperative agreements. The new policy, which will apply to future awards, ties the maximum amount of support for a graduate student on an NIH-funded research grant or cooperative agreement to the stipend level of first-year National Service Award (NRSA) post-doctoral students in effect when the award is made. Compensation includes salary or wages, fringe benefits, and tuition reimbursement.

The current entry-level NRSA stipend is $28,260 but is expected to increase as part of a plan NIH announced in spring 2001 to raise first-year NRSA stipends to $45,000 over the next four to five years. This plan was a response to the August 2000 recommendations of a National Research Council (NRC) report on National Needs for Biomedical and Behavioral Scientists. The NRC report called for significant increases in graduate and post-doctoral student salaries.

NIH s new graduate student compensation policy was announced in the December 10, 2001 issue of the NIH

(continued on page 18)

(continued from page 17)
Guide to Grants and Contracts. It applies to graduate students supported by NIH grants and cooperative agreements but not to students directly supported by NRSA training awards. The policy will apply to all future new and competing awards. According to the notice, NRSA stipend levels are intended to offset the cost of living during the period of training and are not considered equivalent to salaries or other forms of compensation provided to individuals supported on research grants. Despite that disclaimer, the NIH goes on to say, Nevertheless, the entry-level postdoctoral NRSA stipend provides a useful benchmark for an award amount that approximates a reasonable rate of compensation for graduate students.

In general, graduate student compensation will not be considered reasonable if in excess of the amount paid to the first-year postdoctoral scientists at the same institution performing comparable work, the NIH cautioned.

107th Congress Tackles Domestic Terrorism

As the 107th congressional session came to an end, legislators were faced with an issue that had not presented itself in the history of the Republic a foreign terrorist attack on US soil. While the clear priority is to combat terrorism from abroad, a few legislators are also concerned with violent groups with domestic agendas.

On November 2, 2001 several members of Congress sent a letter to environmental groups urging them to reject the actions of eco-terrorist groups. We are calling on you and your organization to publicly disavow the actions of eco-terrorist organizations like Earth Liberation Front (ELF) and Animal Liberation Front (ALF), Congressmen Scott McInnis (R-CO), Chairman of the House Subcommittee on Forests and Forest Health, James Hansen (R-UT), Chairman of the House Resources Committee and several congressional colleagues wrote. Eco-terrorist cells like these have exacted a substantial financial and personal toll on scores of individuals and enterprises in all corners of the United States, they stated.

Groups such as ALF and ELF have been responsible for millions of dollars worth of damage to university labs, research facilities and personal businesses. In fact, the FBI believes that eight out of 12 suspected domestic terrorist incidents in the US in 1999 were caused by the ALF or ELF.

As recently as this October 30, 2001 ELF claimed responsibility for the firebombing of a US Bureau of Land Management wild horse corral in California. According to Congressman McInnis s letter, ALF has been equally destructive with an attack on a New Mexico biomedical research lab that caused nearly $1 million in damage.

In calling on environmental groups to disavow the actions of the terrorist organizations, McInnis likened the search for domestic terrorist groups to the war that is currently being conducted following the September 11 attack. In a press release accompanying the release of his letter, he urged environmental groups to help in the fight. In probing the threat of terrorism, it only stands to reason the Congress should probe the threat of eco-terrorism as well, McInnis said. It is crucial that key environmental organizations join with us in combating these underground eco-terrorist organizations.

Representative McInnis also called for a series of hearings this year beginning February 12. He plans to use these hearings to probe the infrastructure of the ALF and ELF. One of the witnesses scheduled to testify is Craig Rosebraugh, who until recently was a spokesman for the ELF. The committee issued a subpoena to Rosebraugh in November 2001 after he refused previous requests to testify voluntarily.

Because Rosebraugh is being compelled to testify, activists are calling for demonstrations in Washington. One activist urged others on an e-mail listserv to follow your conscience and take any action necessary to stop the destruction of animals, humans, and the natural environment.

Other members of Congress have expressed similar concerns about the violent tendencies of some domestic groups. In the first session of the 107th Congress, Congressman George Nethercutt (R-WA) introduced the Agroterrorism Act of 2001 designed to deter domestic terrorism through increased university security funding and stiffer criminal penalties. Similarly, Congressman Felix Grucci (R-NY) introduced the Hands Off Our Kids Act of 2001. This legislation was devised as a measure to prevent groups, such as ALF and ELF, from recruiting unsuspecting young adults from participating in violent and illegal activities.

Senate Abandons Farm Relief Effort; "Puppy Protection" Amendment Waits in Wings

An amendment to farm relief legislation that could cause problems for research with dogs was introduced in the closing days of the first session of the 107th Congress. The provision, sponsored by Senators Rick Santorum (R-PA) and Richard Durbin (D-IL), was intended to help puppies bred as pets but would also affect dogs bred and used in research. However, prior to adjournment, the Senate was forced to abandon consideration of the farm bill for the time being after Senate Democrats tried three times without success to secure the votes to end a threatened Republican filibuster of the bill. Some observers expect the Senate to make another effort to pass a farm bill in the spring.

The amendment of concern to the research community was based upon Sen. Santorum s Puppy Protection Act (S. 1478). Sen. Santorum introduced this measure earlier last year to improve conditions for puppies bred

and raised in so-called puppy mills. Although intended to end undesirable practices among breeders who sell to commercial pet stores, the changes called for in the legislation would have unintended negative consequences on dogs raised and used in research.

This legislation would establish precise and rigid engineering standards for the breeding and socialization of dogs. These provisions would be based upon the recommendations of animal welfare and behavior experts and would override the current system of outcome-oriented performance-based care standards that permit veterinarians trained in laboratory animal medicine to determine how best to ensure the welfare of the dogs under their care. The American Veterinary Medical Association noted in a letter to Senator Santorum that there is a minimal amount of published, peer-reviewed scientific research available on which engineering standards could be comfortably based.

The amendment would also establish harsh enforcement sanctions with poorly defined criteria for imposing them. It calls for mandatory license revocation when three violations of the Animal Welfare Act are cited over an eight-year period. However, the amendment does not define the severity of violations that would trigger the three strikes, you re out provision, nor does the AWA itself make such distinctions. In a letter to Senator Santorum, APS President John Hall expressed concern that these new sanctions would cause confusion and lead to increased demand for administrative and judicial review whenever USDA inspectors cited any violation. This could create a logjam of appeals that may overwhelm the agency s animal welfare enforcement resources, Hall wrote.

Having made their concerns known to Senator Santorum, researchers are hopeful that before the Puppy Protection Act is brought to the floor either as freestanding legislation or as an amendment to another bill, the offending provisions will be modified or removed. ❖

Bowditch Lecture Award

The annual Bowditch Lecture honoring the first elected President of the American Physiological Society, Henry Pickering Bowditch, has been given at the annual meeting since 1956. The first Bowditch Lecture, Role of the Red Blood Corpuscles in the Regulation of Renal Blood Flow and Glomular Filtration Rate, was presented by John R. Pappenheimer.

The lecturer is selected by the President with the consent of Council from among the regular members who have achieved outstanding work and are under 42 years of age at the time of presentation. The award is for original and outstanding accomplishments in the field of physiology. Originality of approach, clarity of data presentation, and the general significance of the results are important criteria. The award conveys an honorarium of $2,500 plus travel and per diem expenses to attend the spring meeting, and the recipient is invited to submit a manuscript for publication in one of the Society s journals.

Nominations should be accompanied by letters from two nominators describing the importance of the candidate s work, a brief sketch of the nominee s professional history, papers or manuscripts that substantiate the excellence of the candidate, and a curriculum vitae. The nominators should clearly state the contributions of candidates to any jointly authored manuscripts and papers, documenting the independence of the nominee s work.

Nominations should be submitted by October 1 to: The APS Bowditch Lecture Award, 9650 Rockville Pike, Bethesda, MD 20814-3991.

Physiology in Perspective Walter B. Cannon Memorial Lecture Award

The Cannon Memorial Lecture honors Walter B. Cannon, President of the Society from 1913-1916 and one of the century s most distinguished physiologists. The plenary lecture is presented annually by a distinguished physiologic scientist, domestic or foreign, at the spring meeting on a subject that addresses some aspect of the concept of homeostasis as enunciated in Cannon s classic work, The Wisdom of the Body. The lecture, sponsored by the Grass Foundation, is selected by the APS President with the consent of Council.

The recipient receives an honorarium of $4,000 plus travel and per diem expenses and is invited to submit a manuscript for consideration of publication in one of the Society s journals.

Nominations for the Cannon Lecture Award should be adequately documented to demonstrate the candidate s contributions to physiology. A curriculum vitae should accompany the letter of support describing the nominee s achievements. Submit nominations by October 1 to: The APS Cannon Lecture Award, 9650 Rockville Pike, Bethesda, MD 20814-3991.

PHYSIOLOGY IN PERSPECTIVE: THE WALTER B. CANNON AWARD LECTURE (SUPPORTED BY THE GRASS FOUNDATION)

Allen W. Cowley, Jr.
Medical College of Wisconsin

Genomics and Cardiovascular Function

SATURDAY, APRIL 20, 5:30 PM

HENRY PICKERING BOWDITCH AWARD LECTURE

Pontus B. Persson
Humboldt University

Control of Renin, From Cell Lysates to the Conscious Dog

SUNDAY, APRIL 21, 5:30 PM

Distinguished Lectureships

AUGUST KROGH DISTINGUISHED LECTURESHIP OF THE COMPARATIVE PHYSIOLOGY SECTION

Albert F. Bennett
University of California, Irvine

Experimental Evolution: Generating Biological Novelty for Functional and Genetic Analyses

SUNDAY, APRIL 21, 8:00 AM

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

Suzanne Oparil
University of Alabama, Birmingham

The Anterior Hypothalamic Area: Gatekeeper in the Pathogenesis of Salt-Sensitive Hypotension

SUNDAY, APRIL 21, 10:30 AM

CARL W. GOTTSCHALK DISTINGUISHED LECTURESHIP OF THE RENAL SECTION

Biff Forbush
Yale University

Regulation of the Na-K-Cl Cotransporter in Secretion and Absorption

SUNDAY, APRIL 21, 2:00 PM

CLAUDE BERNARD DISTINGUISHED LECTURESHIP OF THE TEACHING OF PHYSIOLOGY SECTION

Penelope A. Hansen
Memorial University, Newfoundland

Physiology s Recondite Curriculum

SUNDAY, APRIL 21, 3:15 PM

JOSEPH ERLANGER DISTINGUISHED LECTURESHIP OF THE CENTRAL NERVOUS SYSTEM SECTION

Celia D. Sladek
Finch University of the Health Sciences/Chicago Medical School

Regulation of the Neurohypophyseal System: Neurotransmitter, Neuropeptide and Steroid Hormone Interactions

MONDAY, APRIL 22, 9:00 AM

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

Norman C. Staub
University of California, San Francisco

Prevention and Treatment of Pulmonary and Systemic Responses to Endotoxin: Whole Animal Physiology Redux

MONDAY, APRIL 22, 10:30 AM

ROBERT M. BERNE DISTINGUISHED LECTURESHIP OF THE CARDIOVASCULAR SECTION

David G. Harrison
Emory University

Regulation of Vasomotor Tone by Redox Status: Physiological and Pathophysiological Implications

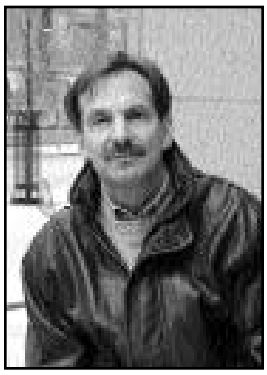
MONDAY, APRIL 22, 2:00 PM

HUGH DAVSON DISTINGUISHED LECTURESHIP OF THE CELL AND MOLECULAR PHYSIOLOGY SECTION

Harvey F. Lodish
Whitehead Institute for Biomedical Research

ACRP30 and Fatty Acid Transport Proteins New Approaches to Obesity and Diabetes

MONDAY, APRIL 22, 2:00 PM



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

Bruce M. Spiegelman
Dana-Farber Cancer Institute, Boston

Transcription Regulation of Energy and Glucose Homeostasis

MONDAY, APRIL 22, 3:15 PM

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

Richard P. Lifton
Yale University

Genetics, the Kidney and Hypertension

TUESDAY, APRIL 23, 9:00 AM

HORACE W. DAVENPORT DISTINGUISHED LECTURESHIP OF THE GASTROINTESTINAL SECTION

John A. Williams
University of Michigan

Regulation of the Synthesis and Secretion of Pancreatic Digestive Enzymes by Diet and Hormones

TUESDAY, APRIL 23, 10:30 AM

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

Peter D. Wagner
University of California, San Diego

Maximum Oxygen Consumption and Its Limitation: the Good, the Bad, and the Molecular

TUESDAY, APRIL 23, 2:00 PM

FASEB Excellence in Science Award

Phyllis Wise
University of Kentucky, College of Medicine

Estrogen: Potent Protective Factors in the Adult and Aging Brain

SUNDAY, APRIL 21, 2:00 PM

Saturday April 20, 2002

Room 255-257	8:30 AM-12 NOON Refresher Course: Recent Advances in Neuroscience **Heesch & Cunningham**	5:30-6:30 PM Walter B. Cannon Memorial Award Lecture **Cowley**
Room 252-254	10:00 AM-12 NOON Workshop: Understanding organ function through real-time fluroscence microscopy **Bhattacharya & Pitt**	1:00 -4:00 PM Tutorial: Bioinformatics for physiologists **Tonellato**
Room 221-222	3:15-5:15 PM Microcirculatory Society President s Symposium: Signaling in cells of the microvascular wall **Sarelius**	
Room 211	3:15-5:15 PM AFMR Symposium: Diagnosis and treatment with atrial natriuretic peptides of diseases with salt and water retention **Vesely**	
Room 213	1:00-5:00 PM Public Affairs Symposium: Everything You Ever Wanted to Know About the IACUC But Were Afraid to Ask **Stallone**	
Room 245	4:30-5:30 PM NIDDK Minority Travel Fellows Orientation	

Fourth Annual Walter C. Randall Lecture in Biomedical Ethics

Adrian Morrison

University of Pennsylvania

Developing an Ethical Position on the Use of Animals in Biomedical Research

TUESDAY, APRIL 23, 2:00 PM

APS Annual Business Meeting and Award Presentations

Tuesday, April 23

Room 221-222

5:30-7:00 PM

Don't miss it!

Sunday April 21, 2002

	8:00-10:00	10:30-12:30	3:15-5:15
Room 255-257		Physiology InFocus: Gene-Environment Interactions in Obesity **Kurtz/Hill**	Physiology InFocus: Neurobiology of Obesity **Haynes/ Schwartz** 5:30-6:30 PM: Henry Pickering Bowditch Award Lecture **Persson**
Room 252-254		Symposium: Bioinformatics in physiological genomics **Tonellato**	1:00-2:30 PM FASEB Public Affairs Symposium
Room 244	Symposium : Sex and nonsex -- estrogen and the aging hypothalamus **Clark/Wyss**	*1-hour only:* Carl Ludwig Distinguished Lectureship **Oparil** 12:30-1:30 PM: Ideas Forum: Whatever Happened to AV3V? **Sved**	2:00-3:00 PM FASEB Excellence in Science Award Lecture **Wise**
Room 245	Symposium: The sensory functions of the DEG/ENaC superfamily of ion channels **Benos/Stanton**		2:00-3:00 PM Carl W. Gottschalk Distinguished Lectureship **Forbush** 6:00-10:00 PM Graduate student highlights in respiration physiology **Raj/Bhattacharya**
Room 221-222		Symposium: New paradigms in neo-vascularization **Schatteman/Peters**	2:00-3:00 PM Microcirculatory Society Landis Award Lecture **Gore**
Room 210	*1-hour only*: August Krogh Distinguished Lectureship **Bennett**	FT: Central and peripheral mechanisms of oxygen sensing **Erlichman/Mitchell**	Microcirculatory Society Young Investigator Session **Stepp/Kanwar**
Room 207	Symposium: The promise for therapeutic intervention in obesity: the brain and beyond **D Alessio**	Symposium: Role of Endothelin ET_B receptors in cardiorenal function **Fink**	Symposium: Functional heterogeneity in the renal microcirculation **Harrison-Bernard/Loutzenhiser**
Room 208	Symposium: Molecular and cellular mechanisms of ischemic liver injury **Lentsch**	Symposium: Manipulations to enhance new tissue formation **Yin**	FT: Applications of physiological genomics: the discovery of novel genes for volume and pressure regulation **Greene/Pollock**
Room 209	FT: Regulation of vascular tone: parallel versus redundant control mechanisms **Frisbee**	Symposium: Viruses, ion channels and ion transporters **Russell**	FT: Epithelial calcium channels: from identification to physiology and pathophysiology **Hediger/Bronner**
Room 214	Symposium: Incorporating case studies in the physiology classroom **Cliff**	FT: Helping students understand physiology through the use of general models **Modell**	*1 hour only:* Claude Bernard Distinguished Lectureship **Hansen**
Room 217	Symposium: The sudden infant death syndrome, sleep, and breathing **Nattie**	FT: Living at extreme temperatures: genes to organisms **Marjanovic**	Symposium: Genetic adaptation to cold **Wang**
Room 211	FT: Hypothalamic PVN: neuromodulatory mechanisms in autonomic regulation **Toney/Stern**	Workshop: Peer Review and Publication of APS Journals **Benos**	Symposium : Rhythms in reproduction **Guevara-Guzman/Hudson**
Room 212	Symposium: Role of myostatin in regulating muscle growth **Lee**	FT: Ventilator induced lung injury: *in vivo* and *in vitro* mechanisms **Matthay**	FT: Oxygen dependent signaling in pulmonary vascular smooth muscle cell **Raj**
Room 213	FT: Interfacing molecular and integrative physiology of the kidney: Na transporters and channels in complex disease models **Knepper/Garvin**	FT: Fetal programming of post-natal cardiovascular regulation **Schwartz/Thornburg**	FT: Energy metabolism in skeletal and cardiac muscle **Cabrera**
Room 218	Workshop: How to be a good mentor; how to be a good mentee (9:00-12:00) **Davisson**		

Monday April 22, 2002

	8:00-10:00	10:30-12:30	3:15-5:15
Room 255-257	Physiology InFocus: Endocrine/ Metabolic Consequences of Obesity **Horwitz/Kahn**	Physiology InFocus: Obesity and Cardiovascular Regulation **Mark/Hall**	*1-hour only*: Solomon A. Berson Distinguished Lectureship **Spiegelman**
Room 252-254			2:00-3:00 PM Robert M. Berne Distinguished Lectureship **Harrison**
Room 244		*1-hour only*:Julius H. Comroe Jr. Distinguished Lectureship **Staub** FT:Novel insights in lung fluid balance **Matthay/Staub**	2:00-3:00 pm Hugh Davson Distinguished Lectureship **Lodish**
Room 245	Symposium: Apoptosis and organ injury mechanisms in hypertension **Schmid-Schonbein/Boegehold**	Symposium: Ion channels and hypoxia **Kunze**	FT: Signal transduction mechanisms for O_2 homeostasis **Beckman/Prabhakar**
Room 221-222			Symposium: Mechanisms of vascular remodeling: temporal events from stimulus to structural and functional changes **Hill/Meininger**
Room 210	FT: Which oxidase is the most important in vascular signaling?. **Wolin**	Symposium: Comparative models to understanding molecular mechanisms of solute transport **Goss**	Symposium: The role of angiotensin and oxidative stress in the development of hypertension **Romero**
Room 207	Symposium: New developments in renal acid-base transport and its regulation **Knepper/Wall**	FT: History of gastric secretion **Tipton**	FT: Epithelial sodium channels **Kleyman/Thomas**
Room 208	9:00-10:00 AM Joseph Erlanger Distinguished Lectureship **Sladek**	FT: Cardiovascular and endocrine control in mice: a mouse is not a small rat **Morris/Davisson**	Symposium: Cellular biomechanics in the lung **Waters**
Room 209	FT: Proteinases: novel signaling molecules in gastrointestinal function and dysfunction **Wallace**	FT: Formation of epithelia in the embryonic kidney **Barasch**	FT: Insights into epithelial transport physiology gleaned from interactions with intestinal pathogens **Barrett**
Room 214	Symposium: Nanotechnology in bioengineering and biology **Desai**	FT: Physiological genomics: transgenic models and gene regulation **Gross/Sigmund**	FT: Developmental aspects of peripheral chemoreception **Carroll/Forster**
Room 217	Cell FT: Membrane transport autoinhibitory domains **Milanick**	Symposium: Physiology of physical inactivity s induction of chronic disorders **Booth/Holloszy**	5:30-7:00 PM Symposium: Career opportunities in physiology: taking the next step **Belloni**
Room 211	FT: Role of gap junctions in CO_2 chemoreception and respiratory control **Solomon/Dean**	AFMR Symposium: Endothelial dysfunction in end stage renal disease **Goligorsky/Baylis**	FT: Exercise-induced cardioprotection: unique insights from cardiac, smooth and skeletal muscle **Korzick/Bowles**
Room 212	FT: Oxidative stress and renal blood pressure **Welch**	FT: Cellular growth factors and stress proteins: regulation and effects **Rose**	FT: Sensory afferents and cardiovascular regulation **Wang/Mifflin**
Room 213		FT: Neural mechanisms impacting sodium balance and arterial pressure in hypertension and heart failure **Ehmke/Felder**	

Tuesday April 23, 2002

	8:00-10:00	10:30-12:30	3:15-5:15
Room 221-222		MyoBio Symp: Adaptive responses of cardiac muscle **Mestril**	Symposium: Vascular consequences of oxidant stress **Pitt/Miller**
Room 210	8:30-9:00 AM WEH Young Investigator Award in Regulatory and Integrative Physiology **Davisson** 9:00-10:00 AM Ernest H. Starling Distinguished Lectureship **Lifton**	Renal Symposium: Disorders of sodium transport and blood pressure regulation **Linas**	5:30-7:00 PM APS Business Meeting Symposium: Epithelial channels: regulation by differentiation and growth factors **Stockand/Rane**
Room 207	Symposium: Estrogen: a potent neuroprotective factor **Wise**	Cross Sectional: Cell-cell crosstalk in the generation of inflammation **Bhattacharya**	2:00-3:00 PM Edward F. Adolph Distinguished Lectureship **Wagner**
Room 208	FT:Capacitative calcium influx and store operated calcium channels **Marchase**	Comp FT: Ontogeny of cardiorespiratory mechanisms: an evolutionary perspective **Warburton**	2:00-3:00 PM The Walter C. Randall Lecture in Biomedical Ethics **Morrison** Symposium: Redox control of skeletal muscle adaptation **Reid/Powers**
Room 209	FT: Skeletal muscle circulation: neural and mechanical determinants (Wiggers Award featured topic) **Rowell**	NCAR Symposium: Neural control of the cerebral circulation **Talman**	FT: Physiological mechanisms of neuronal plasticity in the mature nervous system **Marder/Llewellyn-Smith**
Room 214	Symposium: Bioengineering approaches to enhance gene delivery **Davis**	FT: Physiological genomics: disease gene therapy **Phillips/Davisson**	FT: Molecular basis of local calcium signaling **Foskett**
Room 217	FT: Emerging views of epithelial chloride channels **Wills/Fong**	*1-hour only*: Horace W. Davenport Distinguished Lectureship **Williams**	FT: Redox regulation of vascular function **Harrison**
Room 211	FT: Tissue responses to splanchnic organ injury **Kvietys/Clemens**	FT: Eicosanoids and fever **Blatteis**	FT: Novel actions of aldosterone **Rocha**
Room 212		FT: Food intake and body fat: some central and autonomic controls **Bartness**	FT: Chemoreflexes in health and disease: recent perspectives in cardiovascular control **Schultz/Somers**

APS Elections!

The American Physiological Society 2002 - 2003 election ballot will be arriving shortly.

You will have the opportunity to vote for one of the following candidates for President-elect and for two of the following candidates for Councillor, as put forward by the Nominating Committee.

For President-Elect:
Steven C. Hebert
John A. Williams

For Councillor:
Irving C. Joshua
Virginia M. Miller
Gordon S. Mitchell
Allen F. Sved
Charles M. Tipton

The **deadline** for receipt of the election ballot is on or before **March 7, 2002.**

Wednesday April 24, 2002

	8:00-10:00	10:30-12:30	3:15-5:15
Room 221-222	A. Clifford Barger Memorial Symposium:Cardiac fibroblasts and heart failure **Lucchesi/Hseuh**		
Room 210	Symposium: Common brainstem mechanisms of cardiovascular and respiratory control **Blessing/Wyss**	FT: Integration of volume regulation and cardiovascular function, an application of comparative physiology **Olson**	FT: Cardiovascular genomics **Raizada/Berecek**
Room 207	Symposium: Translational research in preeclampsia and pregnancy-induced hypertension **Khalil/August**	Symposium: Mechanisms of estrogen effects on the cardiovascular system **Gross**	FT: Cell signaling in lung injury **Mizgerd/Townsley**
Room 208	FT: Microvascular regulation in genetic and acquired eNOS deficiency **Koller**	Symposium: Hypoxia, ischemia, Na, Ca and Cytoprotection **Anderson**	
Room 209	FT: Muscle fatigue **Ameredes/Nosek**		
Room 214	Symposium: Mesenchymal-epithelial interactions in lung development and repair are modeling and remodeling one and the same process? **Torday/Plopper**		
Room 217	FT: Dietary fat: physiology and metabolic consequences **Tso/York**	FT: Second messengers in lung cell function **Bhattacharya/Margulies**	
Room 211	AFMR Symposium: Potentiation of the development of atherosclerosis by diabetes **Draznin**	Symposium: Cyclooxygenase-2 and renal function **Salazar/Schnermann**	
Room 212	FT: Oxygenases and Renal Function **Harris**		
Room 213	Workshop: Physiology and risk assessment: predicting adverse effects of new chemicals on critical organ functions **Kinter/Bass**		FT: Protein transport across lung air-blood barrier **Malik**

FASEB Summer Research Conference on Lung Surfactant: Cellular and Molecular Biology

July 20-25, 2002
Saxtons River, VT

Organizers: Robert J. Mason, Carole Mendelson, Alan Jobe, Roger Spragg. Up to 30 Category I CME credits can be earned. The preliminary program can be found at http://www.faseb.org/meetings/src.

An application will be on this same web site in February 2002. For additional information contact ahewitt@faseb.org.

APS EB 2002 Mixer

Band: Lagniappe, featuring Judy England

Ballroom A in the Hilton New Orleans Riverside

Saturday, April 20, 9:00 PM-MIDNIGHT

Poster Sessions (12:45 PM - 3:00 PM)

Sunday, April 21

Energy Metabolism in Skeletal and Cardiac Muscle
Cardiac Muscle Physiology
Biomaterials
Lung Development
Temperature Regulation
Hibernation and Chronobiology
Temperature Adaptations and Energetics
Hypothermia and Cold
Living at Extreme Temperatures: Genes to Organisms
Physiology in Extreme Environments
Endocrinology
Physiological Ecology and Evolutionary Physiology
Gravitational
Renal Medullary Transport and Urine Concentrating Mechanisms
Renal Acid-Base Transport and pH Regulation
Regulation of Epithelial Transport
Cell Volume, Osmoregulation and Water Transport
Epithelial Transport
Hypoxia (Ion Channels)
Gene Expression
Hypoxia-Transmitters
Central and Peripheral Mechanisms of Oxygen Sensing
Control of Breathing: Modulation and Plasticity
Pulmonary Vasoregulation
Pulmonary Hypertension
Lung Nitric Oxide and Vasoregulation
Proteinases: Novel Signaling Molecules in GI Function and Dysfunction
Epithelial-Microbial Interactions
Regulation of Vascular Tone: Parallel versus Redundant Control Mechanisms
Microcirculation
Angiogenesis and Vascular Growth
Hypertension
Vascular Smooth Muscle
Fetal Programming of Postnatal Cardiovascular Regulation
Neurotransmitters in CNS
Motor and Sensory Systems and Altered States
Neuroendocrinology
Central Autonomic Regulation
Neural Mechanisms in Hypertension
Neural Control of Cardiovascular Function I: Exercise, Aging Orthostasis
Neural Control of Cardiovascular Function II: Cardiac Innervation
Microvascular Pathophysiology
Microvascular Pharmacology/Vascular Control
Microvascular Networks
Atherosclerosis/Thrombosis and Clinical Microcirculation

Monday, April 22

History of Physiology
Smooth Muscle Physiology
Aging and Muscle Function
Gestational, Fetal and Neonatal Biology
Growth Hormone and IGF, Neuroendocrinology
Growth, Reproduction and Sex Hormones
Immunoendocrinology
Pancreatic Hormones
Lipid and Cholesterol Metabolism
Mammary Gland Biology and Lactation
Hypothalamus, Pituitary, Adrenal
Lung Fluid Balance
Endothelial Cell Biology/Respiratory
Protein Transport across Lung Air-Blood Barrier
Ventilator-induced Lung Injury: *in vivo* and *in vitro* Mechanisms
Alveolar Epithelial Cell Biology
Drugs of Abuse and the Nervous System
Applications of Physiological Genomics: The Discovery of Novel Genes for Volume and Pressure Regulation
Angiotensin and Kidney Function
Physiological Genomics: Regulation of Gene Expression
Physiological Genomics: Gene Transfer, Transgenics and Knockouts
Respiration and Acid-Base
Osmotic and Ionic Regulation
Muscle and Locomotion
Comparative Biochemistry
Vascular Oxidases
Oxidized Lipids/Oxidant Stress
Oxidative Stress and Renal Blood Pressure Regulation
Vascular Pathobiology
Endothelial Cell Biology/Cardiovascular
Exercise-induced Cardioprotection: Unique Insights from Cardiac, Smooth and Skeletal Muscle
Exercise-Training Responses
Altitude and Hypoxia
Signal Transduction Mechanisms for O_2 Homeostasis
Control of Breathing: Lung and Upper Airway Receptors and Reflexes
Liver Physiology and Pathophysiology
Epithelial Transport, Secretion and Absorption
Organic Solute Transport
Cotransporters/Exchangers/Multivalent Cation Transporters, Organic Ion Transporters
Membrane Transport Autoinhibitory Domains
Cytoskeleton, Cell Mechanics and Intracellular Trafficking
ATPase Ion Pumps
Transporters: Ions, Nutrients, Metabolites and Drugs
Tissue Engineering
Renal Hemodynamics and Hypertension
Epithelial Sodium Channels
Epithelial Potassium Channels
Epithelial Chloride Channesl/CFTR/Bicarbonate Transport
Blood Pressure Regulation
Myocardial Ischemia I
Dietary Fat: Physiology and Metabolic Consequences
Renin-Angiotensin System in Volume and Pressure Regulation
Neural Control of Cardiovascular Function III: Angiotensin
Neural Control of Cardiovascular Function IV: Brainstem Mechanisms
Hypothalamic Control of Autonomic Function
Diseases of the CNS
Mice, Rats and the Brain
Microvascular Permeability
Microvascular Cell and Molecular Biology
Angiogenesis/Microvascular Remodeling
Microvascular Mechanics and Hemodynamics
Flow Regulation; Oxygen Delivery
Instrumentation in Microcirculatory Research

Poster Sessions (12:45 PM - 3:00 PM)

Tuesday, April 23

Active Skeletal Muscle: Cellular and Molecular Responses
Skeletal Muscle Circulation: Neural and Mechanical Determinants
Skeletal Muscle Physiology
Muscle Fatigue
Heat Shock Proteins and Muscle Function
Carbohydrate Metabolism
Connective Tissue, Bone and Stress Related Metabolism During Stress and Trauma
Obesity and Satiety
Protein and Amino Acid Metabolism
Gastrointestinal Pathophysiology
Neural Mechanisms Impacting Sodium Balance and Arterial Pressure in Hypertension and Heart Failure
Emerging Views of Epithelial Chloride Channels
Intracellular pH and Acid-base Transport
Ion Channels
Epithelial Polarity/Protein Trafficking/Tight Junctions/Gap Junctions
Protein-protein and Protein-lipid Interactions; Second Messengers
Insights into Epithelial Transport Physiology Gleaned from Interactions with Intestinal Pathogens
Epithelial Transporters and Channels: Molecular Biology and Structure
Water Channels
Control of Breathing: CNS Mechanisms
Control of Breathing: Chemoreception
Developmental Aspects of Peripheral Chemoreception
Hypoxia
Epithelial Bicarbonate Transport
Physiological Genomics
Genetic Models of Cardiovascular Function
Peripheral Circulation
Chemoreflexes in Health and Disease: Recent Perspectives in Cardiovascular Control
Sensory Afferents and Cardiovascular Regulation
Neural Control of Cardiovascular Function V: Baroreceptor Reflexes
Cerebral Ischemia, Blood Brain Barrier and Anesthesia
Regulation of Water and Electrolyte
Interfacing Molecular and Integrative Physiology of the Kidney
Cerebral Circulation I
NO/CO
Myocardial Ischemia II
Coronary Circulation
Diabetes
Gender Differences in Body Fluid and Cardiovascular Regulation
Motility
Fever and Hyperthermia
Eicosanoids and Fever
Neuronal Plasticity
Lung Ventilation and Gas Exchange
Mechanics of Breathing
Physiological Genomics of the Respiratory System
Physiological Genomics: Genetic Analysis and Model Organisms
Physiological Genomics: Microarrays, Proteomics and Bioinformatics
Integration of Volume Regulation and Cardiovascular Function, an Application of Comparative Physiology
Ontogeny of Cardiorespiratory Mechanisms: an Evolutionary Perspective
Heart, Blood, Circulation
Renal Translational Research
Tissue Responses to Splanchnic Organ Injury
Novel Actions of Aldosterone

Wednesday, April 24

Microvascular regulation in Genetic and Acquired eNOS Deficiency
Gene Expression and Cardiovascular Function
Shock
Cerebral Circulation II
Cardiac Function and Dynamics
Cardiac Electrophysiology
Redox Regulation of Vascular Function
Exercise Responses and Mechanisms
Regulation of Gene Transcription in Lung
Cytokines and Lung Function
Lung Airway Reactivity
Airway Epithelial Cell Biology
Signaling Mechanisms in Airways and Lung Parenchyma
Lung Surfactant
Growth Factors, Hormones and Development
Pancreas
Intracellular Calcium and Calcium Signaling
Calcium Signaling
Capacitative Calcium Influx and Store Operated Channels
Intracellular Signalling and Second Messengers
Cell Growth, Differentiation and Apoptosis
Oxidative Stress Biology
PPARs and Kidney Function
Oxygenases and Renal Function
New Approaches to Biomedical Data Analysis
Vasoactive Factors Regulating Renal Function
Formation of epithelia in the embryonic kidney

Respiration Section Dinner at Experimental Biology 2002

The Respiration Section of the American Physiological Society will have its annual dinner in New Orleans during Experimen-tal Biology 2002. The dinner will be on Monday, April 22 at the Royal Sonesta Hotel on Burbon Street. Dr. Wiltz Wagner will be the featured speaker. He is the V.K. Stoelting Professor of Anesthesiology and Professor of Physiology, Biophysics, and Pediatrics at Indiana University School of Medicine. Dr. Wagner will regale us with his adventures in South America while tracking the elusive coati mundi. The title of his talk is Death at high altitude and the mysterious coati mundi.

Registration for the dinner is required and can be done via the Internet at:http://fmrc.pulmcc.washington.edu/respdinner.shtml. Or by contacting Robb Glenny at: glenny@u.washington.edu

This is a marvelous opportunity to socialize with other members of the Respiration Section while enjoying a nice meal and outstanding dinner presentation.

Sections Special Functions

Cardiovascular

Section Program Committee
Friday, April 19, 1:00 PM
Hilton, Warwick Room

NIH Liaison Committee
Friday, April 19, 5:00 PM
Hilton, Chequers Room

Nominations Committee
Saturday, April 20, 7:00 AM
Hilton, Marlborough A

Industry Liaison Committee
Sunday, April 21, 7:00 AM
Hilton, Norwich Room

Steering Committee
Monday, April 22, 12:00 PM
Hilton, Warwick Room

Dinner
Monday, April 22, 7:00 PM
Ralph & Kacoo s Restaurant
519 Toulouse Street
Advanced-purchased tickets required

Cell and Molecular

Steering Committee
Friday, April 19, 9:00 AM
Hilton, Chequers Room

Banquet and Lecture
TBD
For more information, contact Martha O Donnell, Secretary-Treasurer, Tel: 530-752-7626; Fax: 530-752-5423;
Email: meodonnell@ucdavis.edu

Luncheon
Tuesday, April 23, 12:00 PM
Hilton, Salon 4

Central Nervous System

Section Program Committee
Friday, April 19, 1:00 PM
Hilton, Norwich Room

Steering Committee
Monday, April 22, 12:00 PM
Hilton, Trafalgar Room

Reception
Monday, April 22, 5:30 PM
Hilton, Marlborough A

Comparative

Steering Committee
Sunday, April 21, 12:00 PM
Hilton, Warwick Room

Business Meeting and Social
Monday, April 22, 11:30 AM
Hilton, Marlborough A

Endocrinology and Metabolism

Steering Committee
Monday, April 22, 12:00 PM
Hilton, Prince of Wales Room

Business Meeting and Reception
Monday, April 22, 5:30 PM
Hilton, Salon 6

Environmental and Exercise

Section Program Committee
Friday, April 19, 2:00 PM
Hilton, Trafalgar Room

Steering Committee
Monday, April 22, 7:00 AM
Hilton, Chequers Room

Business Meeting
Tuesday, April 23, 6:00 PM
Hilton, Cambridge Room

Dinner
Tuesday, April 23, 6:30 PM
Hilton, Salon 4

Epithelial Transport Group

Steering Committee
Tuesday, April 23, 12:00 PM
Hilton, Prince of Wales Room

Gastrointestinal

Section Program Committee
Friday, April 19, 6:00 PM
Hilton, Cambridge Room

Steering Committee
Monday, April 22, 7:00 AM
Hilton, Prince of Wales Room

Business Meeting/ Reception/Lecture
Tuesday, April 23, 6:00 PM
Hilton, Prince of Wales Room

History of Physiology Group

Business Meeting/Lecture
Sunday, April 21, 12:00 PM
Hilton, Cambridge Room

Neural Control and Autonomic Regulation

Joint Steering/Section Program Committees
Friday, April 19, 12:00 PM
Hilton, Cambridge Room

Reception for the Distinguished Lecturer
Monday, April 22, 6:30 PM
Hilton, Salon 15

Parietal Cell Club

Monday, April 22, 5:00 PM
Hilton, Salon 10

Renal

Section Program Committee
Monday, April 22, 12:00 PM
Hilton, Chequers Room

Reception
Monday, April 22, 6:00 PM
Hilton, Cambridge Room

Steering Committee
Tuesday, April 23, 12:00 PM
Hilton, Chequers Room

Dinner
Tuesday, April 23, 6:30 PM
The Plimsoll Club
2 Canal Street, World Trade Center
For more information, contact: Susan M. Wall, Treasurer, Renal Section, Tel: 713-500-6868; Fax: 713-500-6882; Email: Susan.M.Wall@uth.tmc.edu

Respiration

Section Program Committee
Monday, April 22, 7:00 AM
Hilton, Marlborough A

Steering Committee
Tuesday, April 23, 7:00 AM
Hilton, Norwich Room

Business Meeting
Monday, April 22, 12:00 PM
Hilton, Elmwood Room

Dinner
Monday April 22, 7:30 PM
Royal Sonesta Hotel
300 Bourbon Street
Dr. Wiltz Wagner, Jr. will be the featured dinner speaker.
Presentation title: Death at High Altitude and the Mysterious Coati Mundi. Advanced-purchased tickets required. For more information, con tact: Jerry Dempsey, Treasurer, Respiration Section, Tel: 608-263-1732; Fax: 608-262-8235; Email: jdempsey@facstaff.wisc.edu

Teaching of Physiology

Section Program Committee
Friday, April 19, 12:00 PM
Hilton, Windsor Room

Steering Committee
Saturday, April 20, 12:00 PM
Hilton, Marlborough A

Luncheon
Sunday, April 21, 12:30 PM
Hilton, Elmwood Room

Business Meeting
Monday, April 22, 5:30 PM
Hilton, Prince of Wales Room

Dinner
Monday, April 22, 7:00 PM
Location TBD
For more information, contact Dee Silverthorn, Department of Neurobiology, University of Texas at Austin, Austin, TX 78712-1064, Tel: 512-471-6560, Fax: 512-471-9651, Email: silverth@utxvms.cc.utexas.edu

Water and Electrolyte Homeostasis
Joint Steering/Awards/Section Program Committees
Saturday, April 20, 2:00 PM
Hilton, Marlborough B

Luncheon and Business Meeting
Sunday, April 21, 12:30 AM
The Plimsoll Club
2 Canal Street, World Trade Center
Advanced-purchased tickets required
For more information, contact John Deitz, Secretary/Treasurer of the Water and Electrolyte Homeostasis Section, Tel: 813-974-1548; Fax: 813-974-3079; Email: jdietz@hsc.usf.edu

Committee Meetings

Animal Care and Experimentation
Sunday, April 21, 7:30 AM
Hilton, Prince of Wales Room

Awards
Sunday, April 21, 7:30 AM
Hilton, Trafalgar Room

Career Opportunities in Physiology
Monday, April 22, 7:30 AM
Hilton, Windsor Room

Committee on Committees
Saturday, April 20, 8:00 AM
Hilton, Prince of Wales Room

Communications Committee
Tuesday, April 23, 12:00 PM
Hilton, Marlborough B

Education
Sunday, April 21, 12:00 PM
Hilton, Norwich Room

International Physiology
Sunday, April 21, 12:00 PM
Hilton, Marlborough B

IUPS 2005 National Organizing Committee
Wednesday, April 24, 2:00 PM
Hilton, Prince of Wales Room

Joint Program
Saturday, April 20, 8:00 AM
Hilton, Elmwood Room

Industry Members Mixer
Monday, April 22, 5:30 PM
Hilton, Oak Alley Room

Liaison With Industry
Tuesday, April 23, 12:00 PM
Hilton, Norwich Room

Long-Range Planning
Tuesday, April 23, 12:00 PM
Hilton, Trafalgar Room

Membership
Monday, April 22, 7:30 AM
Hilton, Ascot Room

Porter Physiology Development
Tuesday, April 23, 7:30 AM
Hilton, Chequers Room

Public Affairs
Saturday, April 20, 7:00 AM
Hilton, Marlborough B

Section Advisory
Friday, April 19, 3:00 PM
Hilton, Marlborough B

Joint Section Advisory With Council
Friday, April 19, 7:00 PM
Hilton, Elmwood Room

Women in Physiology
Wednesday, April 24, 7:30 AM
Hilton, Chequers Room

Publications Special Functions

Journal Editorial Boards Group Meeting
Saturday, April 20, 3:00 PM
Hilton, Elmwood Room

Advances in Physiology Education
Editor and Associate Editors
Tuesday, April 23, 7:30 AM
Hilton, Cambridge Room

AJP: Cell Physiology
Editor and Associate Editors
Monday, April 22, 12:00 PM
Hilton, Marlborough B

AJP: Endocrinology and Metabolism
No meeting

AJP: Gastrointestinal and Liver Physiology
Editor and Associate Editors
Monday, April 22, 12:00 PM
Hilton, Norwich Room

AJP: Heart and Circulatory Physiology
Editor and Associate Editors
Monday, April 22, 7:30 AM
Hilton, Marlborough B

AJP: Lung Cellular and Molecular Physiology
Editor and Associate Editors
Sunday, April 21, 7:30 AM
Hilton, Marlborough A

AJP: Renal Physiology
Editor and Associate Editors
Sunday, April 21, 7:30 AM
Hilton, Cambridge Room

AJP: Regulatory, Integrative and Comparative Physiology
Editor and Associate Editors
Tuesday, April 23, 12:00 PM
Hilton, Oak Alley Room

Journal of Applied Physiology
Editor and Associate Editors
Monday, April 22, 12:00 PM
Hilton, Cambridge Room

Journal of Neurophysiology
Editor and Associate Editors
Monday, April 22, 7:30 AM
Hilton, Norwich Room

News in Physiological Sciences
Editor and Associate Editors
Tuesday, April 23, 12:00 PM
Hilton, Cambridge Room

Physiological Genomics
Editor and Associate Editors
Sunday, April 21, 12:00 PM
Hilton, Chequers Room

Physiological Reviews
Editor and Associate Editors
Monday, April 22, 7:30 AM
Hilton, Cambridge Room

Book Advisory Committee
Tuesday, April 23, 7:30 AM
Hilton, Prince of Wales Room

History of Physiology Book Committee
Sunday, April 21, 12:00 PM
Hilton, Marlborough A

Task Force Meetings

APS Task Force on Trainees
Saturday, April 20, 7:30-10:30 AM
Hilton, Norwich Room

APS Task Force on Fundraising/Foundations
Saturday, April 20, 10:00-12:00 NOON

Public Affairs Symposium

"Everything You Ever Wanted to Know About the IACUC But Were Afraid to Ask"

Experimental Biology 2002
Saturday April 20; 1-5 PM
Room 213 Convention Center

The quality of the ethical oversight of research involving humans and animals is under challenge as never before. This symposium will provide useful information about the IACUC process for review of animal research protocols. Recommended for both research scientists and IACUC members.

Featured topics include:

- **IACUC Function and Responsibilities**
- **Protocol Review**
- **Troubleshooting: Where Do We Go From Here?**

Co-sponsored by the APS, NIH's Office of Laboratory Animal Welfare, American Society for Pharmacology and Experimental Therapeutics, American Society for Nutritional Sciences, American Association of Immunologists, American Association of Anatomists, and the Federation of American Societies for Experimental Biology.

Contact Alice Ra'anan at araanan@the-aps.org to register. Resource materials will be provided.

Postdoctoral Positions

Postdoctoral and PhD Positions: A postdoctoral and PhD position are currently available to study the cellular mechanisms of anoxia tolerance in an anoxia-tolerant vertebrate model. The laboratory is currently studying cellular anoxia tolerance mechanisms in two model systems from the extremely anoxia-tolerant western painted turtle, a hepatocyte primary culture and brain sheet model. Individuals will join ongoing projects studying either the role of second messenger regulation of neuronal ion channels or the role of stress proteins in anoxia tolerance. A working knowledge of any of the following techniques is an asset: single-channel and whole-cell patch clamping, cell culture, fluorometry, UV/vis spectroscopy, immunohistochemistry, and molecular biology including Western analysis. A minimum two years of funding is available for the postdoctoral position and four years for the PhD position. Positions will begin as soon as suitable applicants can be found. Send CV, a letter of research interests and contact information for three individuals to supply a letter of reference to: Dr. L. Buck, University of Toronto, Dept. of Zoology, 25 Harbord St., Toronto, ON. M5S 3G5. Canada, Email: buckl@zoo.utoronto.ca; Tel: 416-978 3506; Fax: 416-978 8532.

Postdoctoral Positions: Two postdoctoral fellow positions are available in the Department of Physiology and Biophysics, Wright State University School of Medicine. Doctoral-level degree required. Conduct experiments on the response to hypercapnia of ventilation and central chemosensitive neurons using simultaneous measurements of intracellular pH or calcium and membrane potential or plethysmography. Experience with fluorescence imaging microscopy, patch clamp techniques and/or small animal plethysmography desirable. First consideration will begin on **February 1, 2002** and continue until both positions are filled. Send resume, reprints and the names of three references to: Dr. Robert Putnam, Dept. of Physiology and Biophysics, Wright State University School of Medicine, Dayton, OH 45435 (robert.putnam@wright.edu). [AA/EOE]

Postdoctoral Positions: Unique opportunities are available to undertake postdoctoral research in the molecular cell biology of signal transduction and membrane trafficking in the nervous system using model systems as well as cultured neurons and oligodendrocytes. Using morphological, cellular and in vitro methods, often developed by laboratories in the Department of Cell Biology, a variety of important questions are available for study. These include (1) growth factor and G protein mediated signaling and intracellular trafficking of receptors and prion proteins and (2) the mechanisms of membrane trafficking and endocytosis via studies of assembly of AAA and other chaperone proteins required for signaling and trafficking. Career development is supported by excellent mentoring and an active postdoctoral society in the department (http://www.postdoc.wustl.edu). Sabbatical opportunities for established investigators are also available. These mentored postdoctoral opportunities in basic science have broad and long-term applications to a variety of neurological diseases. Send three references and CV to: Phyllis Hanson, Jim Huettner, David Harris, Maurine Linder, John Heuser, or Philip Stahl at: Department of Cell Biology and Physiology (http://www.cellbiology.wustl.edu), Campus Box 8228, Washington University, School of Medicine, 660 S. Euclid Avenue, St. Louis, MO 63110.

Postdoctoral Positions: Postdoctoral and PhD positions are currently available to investigate in detail the regulation of the novel epithelial calcium channels (ECaC1 and ECaC2) to provide a molecular basis for achieving a better understanding of calcium mal(re)absorption. To this end, cell lines heterologously expressing ECaC and several tissue-specific ECaC knockout mice models will be characterized using state of the art techniques including microarrays, protein expressing profiling and functional studies. The successful applicant will join an enthusiastic interdisciplinary research team and will have the opportunity to learn a broad range of techniques. Candidates should have experience in cellular or molecular biology and for the three-year postdoctoral positions hold an MD and/or PhD degree and for the four-year PhD positions hold a Masters degree. For detailed information regarding these open positions please visit: http://www.ncmls.kun.nl/celfys/. For applications please contact: RenØ J. Bindels, PhD, Department of Cell Physiology, Nijmegen Centre for Molecular Life Sciences, P.O. Box 9101, 6500 HB Nijmegen, The Netherlands, Tel: +31-24-3614211; Fax: +31-24-3616413; Email: R.Bindels@ncmls.kun.nl.

Postdoctoral Position: A postdoctoral position is available in mammalian genetics to work on human and mouse early developmental defects, particularly the role of genes of the Notch signaling pathway in neurological and axial skeletal development. Stimulating academic environment and excellent clinical resources in newly equipped laboratories of the Abramson Research Center of The Children s Hospital of Philadelphia, located on the campus of the University of Pennsylvania. PhD or MD with significant research experience in molecular biology or developmental biology required. Preference will be given to applicants with experience in human or mouse molecular genetics and vertebrate developmental techniques. Salary will be commensurate with experience. The Children s Hospital of Philadelphia is an equal opportunity employer and a teaching hospital of the University of Pennsylvania School of Medicine. Please send a CV with the names of three references to: Dr. Kenro Kusumi, The Children s Hospital of Philadelphia, Division of Human Genetics & Molecular Biology, Room 1002 ARC Bldg., 3516 Civic Center Blvd., Philadelphia, PA 19104-4399, USA. Fax: 215-590-3764. E-mail: kusumi@email.chop.edu. You may also apply online at http://careers.chop.edu. Use reference ID 41 in all correspondence.

Postdoctoral Position: Applications are invited from highly motivated recent or future PhD graduates to be a part of our Cell Adhesion Biology group. Opportunities are available to work in several areas of vascular biology, inflammation and thrombosis using in vitro cell-based assays and in vivo experiments. The individual will aid in furthering the understanding of therapeutic targets in pathologies such as stroke, ischemia/reperfusion injury and peripheral vascular disease and will have an opportunity to incorporate genomics and proteomics into pharmacology. The individual will be expected to work in a highly interactive team environment and collaborate with scientists in molecular biology and/or protein chemistry. Experience with surgical procedures in animals is highly desirable. Applicants familiar with intravital microscopy will be preferred. Wyeth/Genetics Institute, the pharmaceutical division of American Home Products offers competitive salaries and benefits, including comprehensive health care, dental and life insurance, three weeks paid vacation, matching 401k, pension plan, relocation assistance, dependent care subsidy, and an on-site exercise facility. Please send CV to: Anjali Kumar, PhD, Principal Scientist, Wyeth/Genetics Institute, One Burtt Road, Andover, MA 01810, Tel: 978-247-1333, Email: akumar@genetics.com. Wyeth/Genetics Institute is proud to be an equal opportunity employer, dedicated to building strength through diversity.

Postdoctoral Research Fellowship: An NIH-funded postdoctoral research fellowship position is available at the Institute for Exercise and Environmental Medicine at Presbyterian Hospital of Dallas to study temperature and blood pressure control in healthy and diseased humans. The Institute for Exercise and Environmental Medicine is affiliated with the University of Texas Southwestern Medical Center at Dallas. The applicant must have a PhD, MD, or comparable doctoral degree. The ideal candidate will have a strong publication record and excellent communication and laboratory skills. Salary is commensurate with experience according to NIH stipend levels. The fellow will be an employee of Presbyterian Hospital of Dallas and thus will receive comprehensive fringe benefits including medical, dental, and life insurance. Please send a statement of research interests, curriculum vitae, and three letters of reference to Craig Crandall, PhD Institute for Exercise and Environmental Medicine, Presbyterian Hospital of Dallas, 7232 Greenville Ave, Dallas, TX 75231. Email: craigcrandall@texashealth.org.

Postdoctoral Research Fellows Cardiovascular Research: The University of Nebraska Medical Center offers a multidisciplinary training program in basic cardiovascular research. Our special strengths are in the broad area of cardiovascular biology. Twenty faculty members are mentoring both graduate students and postdoctoral fellows. Our particular strengths are in the areas of neural control of the circulation in heart failure, vascular biology of the cerebral circulation, renal circulatory control in diabetes, modulation of membrane ion channels in cardiac myocytes, potassium channels in renal mesangial cells, molecular biology of viral endocarditis, regulation of the extracellular matrix in blood vessels and the development biology of cardiac septation. Positions are well-supported and include stipend, health insurance and travel to scientific meetings. Details of the interests of faculty, a description of the program may be found on our website: http://www.unmc.edu/Physiology/cardo_center.html. Competitive applicants may apply directly to: Dr. Irving H. Zucker, Department of Physiology and Biophysics, 984575 Nebraska Medical Center, Omaha, NE 68198-4575; Email: izucker@unmc.edu. You must be an American citizen or permanent resident to apply for the NIH-training grant positions. [EOE]

Postdoctoral Position in Gastroenterology/Hepatology: Postdoctoral positions are currently available in the Digestive and Liver Disease Unit, Department of Medicine, University of Rochester Medical Center. The major areas of interest include regulation of intestinal electrolyte and nutrient transport in the normal intestine, the alterations that occur in the intestine of a mammalian animal model of human inflammatory bowel disease, identification of the immune-inflammatory mediators responsible for this alteration, determination of the intracellular pathways that mediate these alterations and the molecular characterization of altered transport pathways. These are National Institutes of Health supported positions for a minimum of four years. The successful candidates are expected to have a PhD in molecular biology, cell biology, physiology or biochemistry. Those interested should send a curriculum vitae with contact information for three references to: Diane Turiano, Administrator, Digestive and Liver Disease Unit, Department of Medicine, University of Rochester Medical Center, Box 646, 601 Elmwood Ave., Rochester, NY 14562, Email: diane_turiano@urmc.rochester.edu, Fax: 716-506-1967.

Postdoctoral Positions: Postdoctoral Research positions in Vascular Biology are available within the new Heart and Lung Research Institute of the Ohio State University, Columbus, OH. Multiple positions are available to investigate signaling mechanisms of vascular cell function and vascular disease. Our laboratory takes a multidisciplinary approach to investigate vascular function ranging from biochemical and molecular analysis of mediators and cell signaling mechanisms in cultured vascular cells to image analysis (two-photon LSM) of signaling systems in isolated perfused arterioles. Major projects are analyzing the molecular mechanisms underlying hypertension, Raynaud s disease and arteriosclerosis, as well as mechanisms regulating normal vascular function. Interested applicants should have expertise in molecular or cellular biology, or in microvascular physiology. The Heart and Lung Research Institute is a state-of-the-art Institute with well-equipped imaging and molecular CORE facilities. Salaries and associated benefits will be commensurate with experience. Qualified applicants should contact: Nicholas A. Flavahan, PhD, Associate Director, Heart and Lung Research Institute, Ohio State University, 473 West 12

Avenue, Room 110E, Columbus, OH 43210. Tel: 614-247-7787, Fax: 614-247-7799, Email: flavahan-1@medctr.osu.edu.

Postdoctoral Positions: A postdoctoral position is available in an established research program focused on the pathogenesis of heart failure. Ongoing projects include the functional mechanisms of cardiac extracellular matrix remodeling mediated by mast cells, fibroblasts, cytokines, metalloproteinases, and integrins in normal and diseased hearts. Candidates should have a PhD in life sciences, with strong expertise in molecular techniques, tissue culture and cellular metabolism being preferred. Review of applications will begin January 1, 2002 and continue until a candidate is selected and recommended for appointment. Qualified candidates should send a letter of interest, curriculum vitae and names and addresses of three references to: Joseph S. Janicki, PhD, Department of Anatomy, Physiology, and Pharmacology, 106 Greene Hall, Auburn University, Auburn, AL 36849-5517. Women and minorities are encouraged to apply. [AA/EOE]

Postdoctoral Research Associate: Applications are invited for the above post to work on the molecular regulation of pyruvate dehydrogenase kinase (PDK) in human skeletal muscle. The intention is to examine the effect of nutritional interventions on PDK gene expression with the aim to understand the role of PDK in the development of insulin resistance and diabetes. Candidates must have a PhD and experience in biochemistry or related discipline. The project will involve characterisation of RNA and protein using Real-time PCR, SDS-PAGE and Western blotting. Experience in these techniques is desirable, although appropriate training will be provided. Salary will depend on qualifications and experience. This post will be offered on a fixed-term contract for a period of three years. Informal enquiries may be addressed to: Dr. K. Tsintzas, Tel: +0044 115 970 9473 or Email: Kostas.Tsintzas@Nottingham.ac.uk. Candidates should send a detailed CV, together with the names and addresses of two referees, to: Dr. K. Tsintzas, School of Biomedical Sciences, Medical School, Queen s Medical Centre, Nottingham, NG7 2UH, England. Closing date: **31 January 2002**.

Faculty Positions

Assistant/Associate Professor of Physiology: The Department of Physiology of Morehouse School of Medicine invites applications for a full-time faculty position with a rank commensurate with experience. Candidates should have a PhD and/or MD degree and have established an independent research program. Preference will be given to an individual with teaching experience in medical physiology and a strong research background in epithelial, cardiovascular or pulmonary physiology and a funded research program. If the successful candidate has a background in cancer related research he/she may be eligible to compete for appointment as a Georgia Distinguished Cancer Scientist. The Morehouse School of Medicine is a free-standing medical school established in 1975, and a member institution of the Atlanta University Center. It has as its mission the training of physicians committed to the care of minority and other underserved populations and the training of research scientists with interests in diseases that disproportionately affect such populations. The research interests of the department include reproductive endocrinology and the endocrine and immunological function of GnRH, host-parasite interactions in the gastrointestinal tract and the role of epithelial cells in infection, the cardiovascular effects of hypogravity, and the ionic mechanisms involved in endothelial cell-monocyte interactions. For further information about the Department of Physiology visit the website: http://www.msm.edu/physiology/physiology.htm. The School of Medicine also has research institutes and centers with which a successful candidate may affiliate. These include The Cardiovascular Research Institute, The Neuroscience Institute, The Space Medicine and Life Sciences Research Institute, The Cooperative Reproductive Science Research Center, and The Clinical Research Center. For further information visit the website: http://www.msm.edu/Aresearch.htm. The application deadline for this position is **March 1, 2002.** Applicants should send a current curriculum vitae to Gordon J. Leitch PhD, (leitch@msm.edu), Department of Physiology, Morehouse School of Medicine, 720 Westview Drive, Atlanta, GA 30310. [EOE]

Assistant/Associate Professor: Several tenure-track positions in the ranks of assistant, or associate research fellows, which are equivalent to assistant, or associate professors positions are available in (A) Physiology and Organismic Group (two positions), and (B) Population and Evolutionary Zoology Group (one position) of the Institute. Individuals with at least two years of postdoctoral training who are interested and/or have prior knowledge and experience in the following areas: (A) integrative and comparative physiology, ecological and evolutionary physiology, and (B) biodiversity, ecology, or evolution are encouraged to send a CV, a description of past research accomplishment and a proposal of the future research, and three letters of recommendation to, Institute of Zoology, Academia Sinica, Taipei 11529, Taiwan. Academia Sinica website: http://www.sinica.edu.tw. Deadline for application is **March 15, 2002.**

Assistant Professor: Applications are invited for tenure-track positions at the Assistant Professor level. Outstanding candidates for higher rank at the Associate Professor level will also be considered. Applicants must have PhD or equivalent degree and evidence of research productivity and creativity. Applicants are sought with demonstrated research expertise, including but not limited to molecular and cellular biology, genomics, trans-

genesis and gene targeting, cytoskeletal signal transduction mechanisms, proteomics and bioinformatics. The successful candidates will be expected to participate in graduate and medical student teaching and to develop a strong, independent research program. He or she will join an interactive faculty with research interests in molecular biology of ion channels, biochemistry, biophysics and molecular biology of skeletal muscle cells, cellular and molecular aspects of neuropharmacology, vascular wall cell biology, cell physiology, molecular biology, electrophysiology, and contraction of cardiac and smooth muscle cells (http://www.unr.edu/med/dept/Pharmacology/id1.htm). Opportunities exist for a variety of collaborative interactions including possible adjunct appointment in the interdisciplinary Center of Biomedical Research Excellence. Competitive salaries, start-up and state-of-the-art instrumentation and facilities are available. Send curriculum vitae, a statement of future research plans and the names of three references to J.R. Hume, PhD, Department of Pharmacology/318, University of Nevada School of Medicine, Reno, NV 89557. Review of applications will begin **January 15, 2002.** [AA/EOE]

Assistant Professor-Animal Physiology: The Department of Biology at the College of New Jersey is currently seeking candidates for a tenure-track position in animal physiology or related fields: molecular, integrative, evolutionary or ecological physiology; neurobiology; endocrinology; and physiological genomics. The teaching assignment of the successful candidate will include a junior/senior course in his/her area of specialty. The successful candidate will be expected to develop a research program involving highly motivated undergraduates. Start-up funds are available. Requirements: PhD; postdoctoral experience preferred. TCNJ is a four-year, primarily residential, primarily undergraduate comprehensive public institution with 5,800 undergraduate students. Our location in the greater Princeton, NJ, area offers opportunities to interface with pharmaceutical/biotechnological companies and other academic institutions. The Department of Biology has 15 full-time faculty members who serve approximately 500 Biology majors (average SAT is 1270, high school class rank is 93%). The Department is housed in a newly-constructed building with excellent facilities for research and teaching. We are seeking a colleague who is committed to undergraduate teaching and has a passion to remain research-active. A review of applications will begin **January 7, 2002.** To apply, please send curriculum vitae, transcripts, statement of teaching and research interest, representative publications, and three letters of recommendation to: Dr. Howard K. Reinert, Chair, Search Committee, Department of Biology, The College of New Jersey, P.O. Box 7718, Ewing, NJ 08628- 0719. Tel: 609-771-2474; Fax: 609-637-5118. For further information about the College the Department, and this position, please visit our website: http://www.tcnj.edu/~biology. [AA/EOE]

Assistant Professor: The Department of Physiology (http://meds.queensu.ca/medicine/physiol/) invites applications for a three-year term non-renewable replacement position at the level of Assistant Professor. While the successful applicant will be appointed in the Department of Physiology, their research interests should align with the Interdisciplinary Cardiac, Circulatory, and Respiratory (CCR) Research Program that is an established research focus of the Faculty of Health Sciences at Queen s University. Candidates should have expertise in Cardiorespiratory Physiology, in particular with the ability to enhance the Cardiac node of the CCR Research Program. Requirements include a PhD or MD degree, outstanding scholarship, a strong record of achievement and the potential to attract external funding. Queen s University (http://www.queensu.ca) is recognized nationally for the quality of its undergraduate and graduate programs, which attract outstanding students. All qualified candidates are encouraged to apply; however, Canadian citizens and permanent residents will be given priority. Queen s University is committed to employment equity and welcomes applications from all qualified women and men, including visible minorities, aboriginal people, persons with disabilities, gay men and lesbians. The deadline for applications is **March 1, 2002.** Applicants should forward a copy of the curriculum vitae and names of three referees to Dr. A.V. Ferguson, Professor and Head, Department of Physiology, Queen s University, Kingston, Ontario, K7L 3N6, Canada.

Assistant Professor: The Department of Physiology in the University of New England College of Osteopathic Medicine invites applications for a 12-month, tenure-track appointment at the level of Assistant Professor. Applicants should hold a doctorate degree, have at least two years postdoctoral experience, and have strong potential for attracting extramural research funding. Preference will be given to research areas in neuroscience, cardiovascular physiology or endocrine/metabolic physiology (diabetes). The successful candidate will be expected to teach endocrine and gastrointestinal physiology to medical students and other graduate health program students. Applications should include a curriculum vitae, a statement of current and proposed research interests, selected relevant reprints, a statement of teaching experience/interests and names and contact information for at least three references. Review of applications will begin in **February 2002** and continue until the position is filled. Application materials should be sent to: Department of Human Resources, Sally Libby, University of New England, 11 Hill s Beach Road, Biddeford, ME 04005. [EOE/AA]

Assistant Professor: A research assistant professor position is available at the East Orange VA Medical Center/UMD-New Jersey Medical School for an endocrinologist interested in working on human hormonal rhythms. This faculty member will work with a multi-disciplinary team

researching pathophysiological processes responsible for medically unexplained fatigue. Position requires PhD and post-doctoral experience. East Orange is in the New Jersey suburbs-30 minutes from midtown Manhattan and 30 minutes from farm land. Interested individuals should Email CV to Dr. Benjamin Natelson at bhn@njneuromed.org or Fax to 973-395-7114.

Assistant Professor: The Department of Zoology at the University of British Columbia is seeking an environmental/integrative physiologist with a PhD (or equivalent) and with some postdoctoral experience. The successful candidate must have an excellent record of research accomplishment, demonstrate superior teaching ability, and show potential for interaction with a core group of animal physiologists and a broadly based group of ecologists and evolutionary biologists. They are expected to develop and sustain a strong, externally funded research program that involves the training of graduate students, and contribute to teaching core courses in animal physiology at the undergraduate and graduate levels. Applications, including a curriculum vitae, summary of research and teaching interests and the names of three referees who have been asked to provide letters should be sent to Dr. John Gosline, Acting Head, Department of Zoology, University of British Columbia, 6270 University Boulevard, Vancouver, BC, Canada, V6T 1Z4; Fax: 604- 822-5780; email head@zoology.ubc.ca). Deadline for receipt of applications is **March 1, 2002.** Salary will be commensurate with experience. Appointment will be subject to final budgetary approval. The University of British Columbia hires on the basis of merit and is committed to employment equity. We encourage all qualified candidates to apply; however, Canadians and permanent residents of Canada will be given priority.

Human Physiology Instructor: City College of San Francisco is hiring for a full-time, tenure-track instructor for the Biological Sciences Department. This position is scheduled to begin in the Fall Semester 2002. Application materials or resumes sent via Email will not be accepted. For a detailed job announcement and a faculty application form, visit our web site by clicking Download Forms at http://ccsf.org/hr or contact the Human Resources Dept., CCSF 33 Gough Street, San Francisco, CA 94103; Tel: 415-241-2246; Fax: 415-241-2335. Applications will be accepted for this position until Friday, **March 15, 2002.** [AA/EOE]

Research Positions

Clinical Research Quality Assurance and Compliance Manager/ Research Subject Safety Monitor: This position involves clinical research, and especially the testing of unapproved drugs, biologics and devices that pose substantial risk to the institution, the individuals conducting the trials, and the participants in the research. And yet, because clinical research is critical to developing new therapies and to the improvement of the health of children, the Children s Hospital of Philadelphia supports the conduct of clinical research by its faculty and has taken steps to see the current level of clinical research activity expand. The conducting of clinical research is in strict adherence to the ethical principles of human subjects research and to the Federal, state and international regulations governing such projects helps protects the subjects, the research staff and the institution. The Clinical Research Quality Assurance and Compliance Manager/Research Subject Safety Monitor(s) will undertake a variety of activities to ensure the highest standards and quality in the conduct of CHOP clinical research and to ensure compliance of clinical research projects, and especially trials, to relevant regulations. Specific activities will include monitoring studies to assure that they are being conducted in accordance with the protocol, safety monitoring plans, the consent process requirements as approved by the IRB and in accordance with Good Clinical Practice and/or other related requirements. In addition to conducting quality assurance audits and reviews, this position will also provide sponsor monitoring activities, monitor the consent process as requested, review adverse events and prepare summaries for sponsor, IRB and regulatory agency consideration. This position will also conduct ad hoc audits as necessary, a series of random audits annually and will provide on-going monitoring and oversight of all projects undertaken at CHOP under an investigator-initiated IND or IDE (whether held at CHOP or elsewhere). This activity is designed to ensure documentation accuracy, data integrity, participant eligibility, etc. Position will serve as a resource, suggesting the development or refinement of policies to maintain CHOP compliance with relevant regulations. Position will also identify areas for which training should be developed or enhanced and will participate in developing and implementing training and institution wide SOPs. Position will serve as a resource on Federal regulations pertaining to research involving human subjects/participants. Position will ensure compliance with: Department of Health and Human Services (DHHS), United States Food and Drug Administration (FDA), Office for Human Research Protection (OHRP), and the Office for Good Clinical Practices. Accountable for adherence to all policies and procedures surrounding this process and for maintaining up to date knowledge on these polices from IRB, FDA, OGCP or other sources. The Children s Hospital of Philadelphia offers an array of outstanding benefits and competitive salaries. Apply online at http://careers.chop.edu or fax your resume/CV to 215-590-4644. Be sure to reference ID 41 in all correspondence. [EOE]

Research Positions: A career as a research professional is filled with challenges, responsibility and exciting rewards. Nowhere will you find this more true than at The Children s Hospital of Philadelphia. As the first hospital in the nation dedicated exclu-

sively to the care of sick children and their unique needs, The Children s Hospital of Philadelphia has been the setting of countless historic breakthroughs such as vaccines against measles, mumps and rubella, the development of a balloon catheter for use in cardiology, and the generation of methods for changing sickle-shaped red blood cells that form the very foundation of pediatric medicine. This has ranked us among the best pediatric hospitals and research facilities in the world. It also helps us attract some of the very best research professionals from around the globe. We welcome you to join them and to find out what it means to love what you do. Be part of one of the leading research efforts in the country. Sample areas of hire include, but are not limited to: Research Technicians, Clinical Research Technicians, Sr. Research Technicians, Postdoctoral Fellows, Biostatisticians, Bioanalysts, Program Coordinators, and Animal Caretakers. Scientific disciplines include, but are not limited to: Hematology, Neurology, Cardiology, Immunology, Oncology, Endocrinology, Genetics, Nutrition, and Biostatistics. The Children s Hospital of Philadelphia provides you with benefits that go beyond the workplace. Apply online at http://careers.chop.edu. You may also Fax your resume to 215-590-4644. Be sure to use reference code 52 in all correspondence. [EOE]

Assistant Research Scientist: The Department of Internal Medicine, Infectious Diseases Division is seeking an Assistant Research Scientist to perform basic or applied research in molecular genetics of Leishmania chagasi, to develop novel molecular genetics techniques, and to adapt methods in proteomics to the study of gene expression in this parasitic protozoan. To identify and select problems to be studied, select the optimal approach to questions, and interpretation of results. Requires a person in this classification have the academic knowledge of a discipline generally associated with a Doctoral degree, or an equivalent professional degree, i.e., MD, DDS, or DVM. In addition, such a person will have demonstrated the ability to plan and execute a research study through some progressively responsible independent research work. Desires experience with molecular parasitology; cell biology and protein biochemistry techniques and prior work experience with protozoal parasites and transfection. Please send resume and cover letter indicating #44598 to: Carol Wehby, Human Resources, Internal Medicine, E400 GH, 200 Hawkins Drive, Iowa City, IA, 52242-1081. [EOE/AA]

Assistant Research Scientist. The Department of Internal Medicine, Pulmonary, Critical Care and Occupational Medicine Division is seeking an Assistant Research Scientist to perform basic or applied research in the broad area of gene discovery including identification of novel genes involved in lipogenesis. Requires a person in this classification to have the academic knowledge of a discipline that is generally associated with a Doctoral degree, or an equivalent professional degree, i.e., MD, DDS or DVM. In addition, the person will have demonstrated the ability to plan and execute a research study through some progressively responsible independent research work. Desires considerable research experience in molecular biology and expertise in the molecular cloning and expression of genes in eukaryotic systems, and analysis of the biochemical and physiological relevance of expressed proteins. Please send resume and cover letter indicating #44550 to: Carol Wehby, Human Resources, Internal Medicine, E400 GH, 200 Hawkins Drive, Iowa City, IA 52242-1081. Women and minorities are strongly encouraged to apply. [EOE/AA]

Research Technician: This professional position is available immediately for the successful candidate with a background in muscle physiology working on a recently funded five-year project from the National Institutes of Health. The focus of the study will be to examine how skeletal adapts to resistance training and how older people respond to this type of exercise. Responsibilities include: applying background in muscle physiology in performing single muscle fiber work and gel electrophoresis and coordinating the muscle analysis with other team members. Minimum qualifications: bachelor s degree in physics, chemistry, biology, exercise physiology, or other related science area; experience with data analysis; experience with writing reports; basic computer skills. Preferred qualifications: master s or PhD degree in science or other related field; experience working with muscle tissue; basic electronic skills. Send letter of application, current vita, and contact information (name, address, telephone number, email, and affiliation) for three references to: Scott Trappe, PhD, Human Performance Laboratory, Ball State University, Muncie, IN 47306. Review of applications will begin immediately and will continue until the position is filled. (http://www.bsu.edu). Ball State University is an equal opportunity, affirmative action employer and is strongly and actively committed to diversity within its community.

Research Assistant: This is a professional position available immediately working on a recently funded five-year project from the National Institutes of Health. The focus of the study will be to examine how skeletal adapts to resistance training and how older people respond to this type of exercise. Responsibilities include: recruitment and screening of subjects, strength training and muscle testing, data organization, and coordination of the project with other team members, including working directly with the Principal Investigator of the project. Minimum qualifications: master s degree in exercise physiology and/or business-related field; experience with statistical analysis; experience working with elderly men and women; experience with data analysis; experience with writing reports, coordinating projects, and working with other people. Send letter of application, current vita, and contact information (name, address, telephone number, email, and affiliation) for three references to: Scott Trappe, PhD, Human

Performance Laboratory, Ball State University, Muncie, IN 47306. Review of applications will begin immediately and will continue until the position is filled. (http://www.bsu.edu). Ball State University is an equal opportunity, affirmative action employer and is strongly and actively committed to diversity within its community.

Research Associate: We are looking for a person highly skilled and knowledgeable in laser scanning confocal microscopy and deconvolution to work in the field of developmental cardiac biology. The imaging will include double immunolableing of fixed cardiomyocytes and line scanning of live cells for Ca2+ transients and sparks. The ideal individual will have very good technical skills and hands on experience in these techniques. Furthermore, strong programming ability in Labview is a decided asset. A doctorate is not a requirement but an advantage. The laboratory is located in a new research institute, which is on the grounds of BC Children s Hospital in Vancouver and is affiliated with UBC. More information about the Institute can be found at http://www.bcricwh.bc.ca. The position is available immediately and the salary is in the range of $40,000-$50,000 per annum depending on experience. Please send your resume and the names of three potential referees by **December 14, 2001** to: Dr Glen Tibbits (tibbits@sfu.ca), Director (Pro tem), Cardiovascular Sciences Program, BC Research Institute for Children s & Women s Health, 950 West 28th Avenue, Vancouver, B.C., V5Z 4H4.

Program Coordinator

Program Coordinator II-GI/Nutrition: Join one of the leading pediatric research facilities in the nation. With over $65 million in research grants each year, The Joseph Stokes Jr. Research Institute of The Children s Hospital of Philadelphia is a pioneer in pediatric medicine. This full time, Monday-Friday position will entail handling confidential materials and multiple, time sensitive tasks. You will perform diverse and complex clinical research activities within the Nutrition and Growth Lab. You will also manage quantitative information and acquire proficiency in the areas of growth assessment, body composition, bone material density, physical activity, and dietary intake. A Master s degree in Nutrition or a related field is essential. Experience in a pediatric clinical nutrition or clinical research setting is preferable. The ability to work independently is required, and excellent communications skills are a must, as you will interact extensively with staff, parents and children. The Children s Hospital of Philadelphia offers competitive salaries, comprehensive medical/vision/dental/prescription plans, life insurance, employer contribution retirement plan, work/life benefits, and a firm commitment to staff development and education. Apply online at: http://careers.chop.edu or fax your resume to 215-590-4644. Use reference ID 50 in all correspondence. You may also forward your information to dudleyn@email.chop.edu. [EOE] ❖.

News From Senior Physiologists

Letter to G. Edgar Folk

Ching-Tong Liu writes: I was really surprised to receive your letter of 19 October 2001, reminding me of my 70 years old birthday. I used to enjoy reading some impressive stories of other senior physiologists in *The Physiologist*. It is unbelievable that this time is my turn to write something concerning my post-retirement life. I feel that life is too short, and there is too much remains to be done in one s life. We simply do not have enough time to accomplish what we wish to accomplish.

I retired in September 1996 from a federal government position (GS-14 Research Physiologist) at USAMRIID (US Army Medical Research Institute of Infectious Diseases), Fort Detrick, Frederick, MD. At first, I tried to readjust myself to fit a new and relaxed life style. No matter how well I prepared or how hard I tried for this so called easy life, I felt completely lost by not going to work every day. I began to miss my administrative work, the laboratories, friends, colleagues, and the fun associated with my research. Indeed, the sudden change of normal routine almost stopped my hopes or dreams completely.

I began to feel uncomfortable shortly after a quiet and semi-isolated life. Although I had much free time every day, there was no real purpose. First, I struggled to put my mind together to write a manuscript using accumulated data from the past. I also decided to learn some new things and kept myself busy. My main idea was to start a new career in the field of clinical sciences through active collaborations with physicians.

I began to apply some jobs with confidence. Initially, I believed that based on my scientific knowledge, working experiences in animal models, and established records of achievements, to find another job should be easy. However, I have been disappointed about the negative results. It appears that my advanced age may have played a role in preventing it happening. Nevertheless, I will continue to test the hypothesis of possible age-related cause.

After retirement, my first adventure was to work independently as a Physiology Consultant at a local medical center in Frederick, MD. The main purpose was to help patients understand some possible causes of their diseases and recommend them to seek proper medical treatments from a group of selected physicians, including acupuncturists. Unfortunately, I faced many unimaginable difficulties, and I

gave up this business idea after four months of trying. The next thing I did was to collaborate with members in the Division of Substance Abuse, Frederick County Health Department to write an NIH research proposal, entitled The treatments of human substance abuse with alternative medicine. The voluntary consent form has been approved by the Institutional Review Board, Maryland Department of Health and Mental Hygiene, Baltimore, MD.

When I began to write a research proposal, the first need was a local medical library where I could use their services and facilities to search for the literature. This necessity drove me to think seriously about returning to Fort Detrick. I had enough encouragement to request to work as a volunteer at USAMRIID, Fort Detrick in September 1997. The request was granted by the Commander and I got his permission to work with a mentor in the Medical Division. While I was finding my ways to get involved with some clinically related projects, I had the opportunity to work with several military medical officers. My main job was to help them write manuscripts using massive amounts of clinical data from previous human trial experiments. The data included the studies of efficacy and safety of three virus vaccines against Rift Valley fever, western equine encephalitis, and eastern equine encephalitis, respectively. I also wrote another clinical manuscript concerning the development of a human disease model challenged by two strains of enterotoxigenic E. coli. In addition, I continued to serve as a voluntary manuscript reviewer for *Military Medicine*.

Because I have been always fascinated by the mystery of Chinese medicine, I decided to read some books related to the acupuncture, herbs, and old concepts of human anatomy. While I was studying the concept of Chinese medicine, I was invited to give a talk by the American Dental Society of Anesthesiology in April 1999, Washington, DC. The topic was The Integration of Eastern and Western Medicine Concepts. The contents were published in the Meeting Notebook. I was appointed as a member of the Advisory Board of *Hepatitis* magazine in June 1999. I wrote two short articles related to the concepts of Chinese medicine in the *Hepatitis* magazine.

My four-year voluntary work at USAMRIID was completed in August 2001. I have been contracted by a company and assigned to work as a consultant at the same Institute. This sudden change really made me happy! I am glad that I can continue to provide some help to the Institute, concerning various aspects of vaccines and infectious diseases. Since this is a contract job with a fixed time limit, my applications for finding a more secure and regular job are continuing.

At the age of 70, I consider myself in excellent health condition. Perhaps I have been doing the right things to my body and mind. I am still capable of taking care of the yard work, including grass mowing and leaves removal. Since I am also a gardener, I planted most of the flowers, shrubs, and trees around the house since 1973. I must keep them alive and trim them in some beautiful shapes. When I work in the yard, I am completely relaxed. I do not think or worry about things related to sciences or any other matters in this world. The enhanced muscular work and sweating really reduce my mental stress and improve the thinking process.

For my family life, I have a wife (In-May) and three daughters (Grace, Jeannette, and Chrissy). In-May is working in the fields of insurance and finance at the home office. The children have grown up and left the house. The youngest Chrissy is a sophomore at Harvard University, majoring in Computer Science. Jeannette, the second daughter, is a neurosurgeon, who is receiving residency training at the University of Texas Medical Branch, Galveston, Texas. Grace graduated from Hood College in Frederick with a major in Art History. She is married and had twins (a boy and a girl) in April 2001. We visit our daughters sometimes and have so much fun with them. Especially, we are so happy and excited to see our grandchildren, who somewhat repeat our life patterns again in a new form.

As for my advice or words of wisdom passing on to the younger colleagues, I do not believe that I need to say too much. The main reason is that they have heard a lot of good advice and know how to be successful working in the field of physiology. However, I cannot maintain silence without saying anything. The following six points are provided for consideration:

1. Be curious about the life-maintaining processes and you must work very hard to understand and demonstrate the operational mechanisms in animals or humans. The emphases should include the studies of control animals and the pathophysiological mechanisms associated with diseases.
2. Write research proposals continuously to obtain grants or contracts for continuing your exciting research work.
3. While studying molecular physiology is important, remember that the gained knowledge must be applicable to the whole body.
4. Have a broad training in many fields of biomedical sciences in your career to meet the future stiff and unpredictable challenges.
5. To learn is a life-long process, and you must do it continuously with pleasure and excitement.
6. Never forget that you are a physiologist. Your ideas and operations must be consistent with the physiological principles. The principles include logical designs, clear organizations, and precise coordination to function together as a whole.

Letter to Eugene Renkin

Bernice M. Wenzel writes: Many thanks for your congratulatory note in observance of my 80th birthday. It was in the large box of mail awaiting my husband and me when we returned from Paris in June and it promptly migrated to the bottom of a stack of things-to-do-later. There it stayed, out of sight and mind, until a few days ago when I was finally stirred to clean up the unsightly pile, which had grown since another return from Europe last month, this last one complicated by the closing of US air space after 11 Sept.

You asked whether I am still active professionally and the answer is a qualified No. I closed my laboratory

when I retired in 1989. Except for some invited talks at international meetings soon after that, I have done very little professional writing or speaking. I continue to attend the annual meeting of the Association for Chemoreception Sciences regularly and I go to the Society for Neuroscience meeting when it is in my neighborhood as it is this year.

I have remained active at UCLA in the Emeriti Association and the Academic Senate. In the latter, I have served on a number of committees, chaired one for two terms, represented my department in the Legislative Assembly, and represented the campus in the systemwide Assembly. I have also served on some administrative committees. Currently, I am a member of the Committee on Faculty Welfare, the executive committee of the Friends of the UCLA Library, and an ad hoc review committee. In our Emeriti Association, which has over 1,000 members and is very active, I have filled many posts, including the presidency. Two years ago, the association presented me with a handsome plaque as Emeritus/a of the Year.

After my husband, Wendell Jeffrey, retired from the UCLA psychology department in 1990, we set out for those parts of the world where, as he put it, our international meetings never took us. We have greatly enjoyed many trips to exotic and remote spots on all seven continents and hope that the present situation will not limit us while we are still vigorous enough for adventure travel. Together, we have established and supported an annual lectureship in the department of psychology for the last few years, called the Jeffrey Lecture on Cognitive Neuroscience. Each lecturer visits for three days, meets with graduate students, gives one major public lecture, and another more specialized one for students. It has been a very successful program. We take full advantage of the wonderful art museums in Los Angeles as well as the theaters and symphony. In summary, we have reveled in retirement, wonder how we ever had time to work, and look forward to more of the same.

In return for the Society s congratulations, I would like to send my own for its commendable practice of maintaining this contact with the retired members. I have tried to convince other associations to do something similar, with no success at all. I always enjoyed reading the letters before I retired myself. Such a personal touch by a large organization is impressive.

Letter to Karl Wasserman

The following letter was originally published in the October 2001 issue The Physiologist (44:376, 2001). However, because there were errors in the original printing, we are reprinting the complete letter with corrections.

Michael Barany writes: Thank you for your birthday greeting and invitation to write a letter to *The Physiologist*.

When I first wrote to *The Physiologist* I was optimistic. I thought retirement is nothing else; just a change in the source of my salary from the State of Illinois payroll to that of the State Universities Retirement System. This idea was working for two years, when the continuation of my 18-year NIH grant was declined. Soon it turned out that I can not get grants from various agencies, including my own Graduate College, which kept me as a full professor. In the absence of funds, I edited the book *Biochemistry of Smooth Muscle Contraction*, 30 chapters, published by the Academic Press. The book got good reviews in *Science* and *Nature*, and it is considered as one of the textbooks in smooth muscle research. I was happy when Dr. John Barron, my previous postdoctoral associate, currently Associate Professor of Cardiology in the adjacent Rush Medical College, invited me to work with him on smooth muscle metabolism. I devised a method for measurement of 3H-H20 produced from 3H-labeled sugars and fatty acids in muscle, and we published a few papers and abstracts. This happy time was interrupted when Kate had to be hospitalized with endocarditis and soon thereafter her retina got detached. I have spent the last three years with Kate at home.

During this time, we prepared a home page, near to 100 pages, on Biochemistry of Muscle Contraction that contains selected topics from our class teachings, 1985-1995. This home page rapidly has spread over the Web; on average 500 files are being transferred per day to various countries all around the world. The home page became also part of the Biophysics Textbook OnLine, and I was asked to be the editor of the Muscle section of this textbook. Between 1997-2000, I was a member of the Senior Physiologist Committee, and enjoyed speaking and corresponding with physiologists of my age. Unexpectedly, I was reelected to the Committee and now I am serving my second term. Also while staying home, I organized the symposium of Muscle Research in the 20th Century that took place at the 2000 spring meeting of APS. Hugh Huxley, myself, John Gergely, and Clara Franzini-Armstrong were the speakers.

In the middle of 2000, I returned to the laboratory, to work on actin in smooth muscle. The Edgar Folk, Jr. Foundation for Senior Physiologists donated me $500, my department helps by giving supplies from the storeroom on a long-term payment basis, but my personal money is the main support of my research. Fortunately, throughout my life I was working in the lab with my own hands; thus, I have no difficulty carrying out the research virtually alone.

At the end of the 1990s, Kate and I were invited to write our autobiography to the *Selected Topics in History of Biochemistry: Personal Recollections VI*, an Elsevier series within *Comprehensive Biochemistry*. We described our 50-year marriage and scientific collaboration under the title, Strife and hope in the lives of a scientist couple. The message that we want to send to the new generation of physiologists is: Strife and hope, and never give up. The day will come when life smiles on you. Serve science and humanity. ❖

Review of Medical Physiology, 20th Ed.

William F. Ganong
New York: McGraw Hill, 2001, 817 pp., index, $44.95.
ISBN: 0-8385-8282-6.

This classical and one of the historically best selling and most widely distributed basic medical physiology texts has been revised for its 20th time. Like its predecessors, it includes the most relevant information necessary for first year medical students to review the areas on which most modern medical practice is based. Because this text is intended as a review it is published in soft cover, and not meant to be a comprehensive annotated text to be used by graduate students as well as physicians. However, much of the material is indeed covered in a relatively comprehensive manner and each section is concluded with relevant references for those wanting a deeper understanding of the subject matter. Dr. Ganong has, as always, been able to describe complex concepts in a clear and concise manner with supporting illustrations. This edition is filled with clinical correlations that should make reading more relevant and palatable for the first year medical student.

The text covers each organ system in an incremental manner. That is, the book begins with cellular and membrane physiology which is fundamental to the students understanding of the more complex organ systems and integrative physiology. Organ systems are covered in a rational order (nervous system and muscle; endocrinology, metabolism and reproduction; gastrointestinal function; the heart and circulation; respiratory function; renal function).

One of the strengths of this text is that while the traditional material is covered succinctly, Dr. Ganong has incorporated newer, more up to date material and has made every attempt to stay current. For instance, in Chapter 28 which discusses cardiac electrophysiology and the cellular basis for arrythmogenesis, a discussion of the molecular basis for the long Q-T syndrome provides new information not provided in some earlier additions. Another good example of this is the discussion of Liddle s syndrome both in the section on renal function as well as the mention of it in Chapter 33 as part of the discussion of hypertension. In this way the student more completely understands the relationships of a given disease entity on multiple organ systems and obtains a further appreciation of the true integrative nature of pathophysiological states. This reviewer would encourage addition material on the molecular and genetic basis of disease as well as short references to new treatment modalities (i.e. gene therapy) in future editions.

As in previous recent editions, an additional strength of this text is the general and multiple choice questions provided on a chapter basis at the end of the book. These are meant to prepare students for both course exams and to act as preparation and review for the USLME Part 1 exam. While most of these questions are excellent, an improvement could be made in designing questions that are more case oriented in keeping with the recent changes in USLME format. In addition, the inclusion of more mathematical problem solving sets in the renal and membrane sections would further challenge the student.

In summary, this tried and true text maintains it prominence as one of the premier comprehensive reviews of medical physiology. It is an excellent resource for medical and graduate students as well as junior physicians. It is written in a clear manner with many outstanding figures to help the reader understand difficult concepts. It should be understood that this is not a substitute for larger and more expansive texts but should be used as a supplement to those texts and to lectures and small group discussions.

Irving H. Zucker
University of Nebraska Medical Center

LabVIEW: Data Acquisition and Analysis for the Movement Sciences

Andrew L.McDonough
Upper Saddle River, NJ: Prentice Hall, 2001, 238 pp., illus., index, $64.00.
ISBN: 0-13-012847-3.

LabVIEW (National Instruments Corporation) is a graphical programming language designed to facilitate data collection and analysis, as well as offer numerous display options. With data collection, analysis and display combined in a flexible programming environment, the desktop computer functions as a dedicated measurement device. Thus, programs in LabVIEW are referred to as virtual instruments. They use conventional programming methods with graphical icons rather than the conventional computer-language command text. Graphical tools are used to connect or wire a wide variety of functions and hardware interfaces.

This very popular programming environment, which is used in essentially all fields of science and engineering, is well documented with numerous examples. However, because the construction of virtual instruments requires knowledge of programming and instrumentation, program development is often limited to engineers or computer scientists. With this publication, Dr. McDonough enables those in biological fields, especially the movement sciences, to acquire the skills to develop their own virtual instruments.

This well-written book is organized into three sections. The first answers the question What is LabVIEW? The second defines and discusses data collection parameters such as sampling rate, signal range, resolution, precision and normalization. The third section begins with brief sub-sections on system considerations (LabVIEW supports Mac, Window and UNIX platforms), versions and drivers. Then it lays the groundwork for graphical pro-

gramming by discussing and illustrating tools, menus, block diagrams and icons. The remainder of this section is devoted to developing virtual instrument examples.

A major strength of this book is its numerous illustrations and tables. These prove very helpful in the development and understanding of the virtual instrument examples. All but the simplest of examples include a table listing key parameters and an illustration showing how the example will appear on the monitor as well as a display of the virtual instrument block diagram. Illustration legends are excellent, providing shorthand documentation of functionality and construction. After initial development, an example can be reviewed quickly and easily by consulting the tables, illustrations and legends.

There are over 100 examples of virtual instruments in the third section, ranging from ones that can be created in a matter of seconds to complex examples that collect data or compute statistical or spectral parameters. The author strongly recommends that the reader/student develop each example; however, all examples can be quickly constructed by reading them directly into LabVIEW from an accompanying CD. The CD also contains sample data files that complement the program example. These data files can be used to quickly test virtual instrumentation functionality or can be used when data collection hardware in not available.

This book s primary target, as stated in the preface, is a structured course for students in movement sciences. It is not intended to be a general-purpose reference or complete overview. It could prove useful in other related biological fields such as physiology, bioengineering or biomechanics or be used by the individual student or professional wanting to add the quantitative skills of data collection and analysis. Another potential application is the development of custom programs for the laboratory from the example virtual instruments. LabVIEW applications are often developed by finding an example similar to what is needed and then making necessary modifications.

It should be noted that this manual was written for Version 5.0 and that National Instruments has recently released Version 6.0. Functionality has not changed, but there are minor and primarily cosmetic differences. At this point, a course developer wanting to insure a best fit between programming environment and manual should use LabVIEW 5.0. A document (LabVIEW 6.0 Upgrade Notes) on the National Instruments web page (http://www.ni.com) lists differences between versions.

Dr. McDonough teaches graduate courses with LabVIEW and uses it in his own research. This book reflects his extensive hands-on experience and has been tried and proven in the classroom. If you plan to learn or teach LabVIEW, this book deserves consideration. ❖

David R. Brown
University of Kentucky

Books Received

Attitudes on Altitude: Pioneers of Medical Research in Colorado s High Mountains
John T. Reeves and Robert F. Grover.
Boulder, CO: Univ. Press of Colorado, 2001, 218 pp., illus., index, $21.95.
ISBN: 0-87081-645-4.

Basic Concepts in Physiology: A Student's Survival Guide
Charles Seidel.
New York: McGraw Hill, 2002, 234 pp., illus., index, $29.99.
ISBN: 0-07-135656-8.

Complex Regional Pain Syndrome
R. Norman Harden, Ralf Baron, and Wilfrid J nig (Editors).
Progress in Pain Research and Management, Vol., 22.
Seattle, WA: IASP Press, 2001, 338 pp., illus., index, $78.00.
ISBN: 0-931092-41-8.

The Epididymis: From Molecules to Clinical Practice, A Comprehensive Survey of the Efferent Ducts, the Epididymis and the Vas Deferens.
Bernard Robaire and Barry T. Hinton. (Editors).
New York: Kluwer Academic/Plenum, 2001, 575 pp., illus., index, $125.00.
ISBN: 0-306-46684-8.

Graphical Models: Foundations of Neural Computation
Michael I. Jordan and Terrence J. Sejnowski (Editors).
Cambridge, MA: MIT Press, 2001, 421 pp., illus., index, $32.95.
ISBN: 0-262-60042-0.

Methods in Genomic Neuroscience
Hemin R. Chin and Steven O. Moldin (Editors).
Boca Raton, FL: CRC, 2001, 321 pp., illus., index, $119.95.
ISBN: 0-8493-2397-5.

Modern Protein Chemistry: Practical Aspects
Gary C. Howard and William E. Brown (Editors).
Boca Raton, FL: CRC, 2002, 257 pp., illus., index, $99.95.
ISBN: 0-8493-9453-8.

Neuropathic Pain: Pathophysiology and Treatment
Per T. Hansson, Howard L. Fields, Raymond G. Hill, and Paolo Marchettini (Editors).
Progress in Pain Research and Management, Vol. 21.
Seattle, WA: IASP Press, 2001, 277 pp., illus., index, $79.00.
ISBN: 0-931092-38-8.

Nutrient-Gene Interactions in Health and Disease
Na ma Mousta d-Moussa and Carolyn D. Berdanier (Editors).
CRC Series in Modern Nutrition.
Boca Raton, FL: CRC, 2001, 472 pp., illus., index, $129.95.
ISBN: 0-8493-2216-2.

Primer of Biostatistics, 5th Edition
Stanton A. Glantz
New York: McGraw-Hill, 2002, 489 pp., illus., index, $34.95.
ISBN: 0-07-137946-0.

The Physiologist
Vol. 45, No. 1, 2002

Fellows Steps Down, Campbell Named Interim Head of Physiology, Biophysics

Robert E. Fellows, who has served as head of the University of Iowa Department of Physiology and Biophysics since 1976, will step down from that position effective Feb. 1. Kevin P. Campbell, PhD, the Roy J. Carver Chair of Physiology and Biophysics, and Howard Hughes Medical Institute (HHMI) Investigator, has been named interim head of the department.

Campbell is internationally renowned for his neuromuscular disease research. His work has led to the identification of the molecular and genetic basis of several forms of muscular dystrophy and has provided a clearer understanding of the muscular dystrophy disease processes. Campbell's findings have already greatly improved the diagnosis of muscular dystrophy and point to strategies for developing therapies for these devastating neuromuscular diseases.

Kevin Campbell

Campbell received his doctoral degree in biophysics from the University of Rochester and his bachelor's degree in physics from Manhattan College. Campbell has been an HHMI Investigator since 1989, and in 1999 he was elected to the prestigious Institute of Medicine of the National Academy of Sciences. He also is a UI Foundation Distinguished Professor. Campbell joined the UI faculty in 1981 and holds a joint appointment in the department of neurology.

Fellows earned his medical degree from McGill University and his doctoral degree from Duke University. He spent 10 years at Duke University teaching and conducting research as a faculty member of the departments of physiology and pharmacology, and medicine before moving to the UI in 1976 to assume leadership of the department of physiology and biophysics.

Robert Fellows

Fellows research career has focused on understanding the cellular and molecular mechanisms that underlie neuronal development and differentiation in the central nervous system. In particular, his work has investigated the roles of hormones and growth factors in the earliest development of fetal brain cells.

Between 1976 and 1997, Fellows also was director of the Medical Scientist Training Program (MSTP) at the UI. As a physician-scientist himself, Fellows has devoted himself to the education and training of the next generation of medical researchers. These physician-scientists, who have both clinical and basic science expertise, play a critical role in the progress of biomedical science. ❖

Joseph G. Cannon has accepted a position with the School of Allied Health Science, Medical College of Georgia, Augusta, GA. Prior to his new position, Cannon was affiliated with the Department of Physiology, Pennsylvania State University, University Park, PA.

Yifan Chen has moved from the Department of Anesthesiology, University of Rochester Medical Center, Rochester, NY to the Department of Anesthesiology, Georgetown University, Washington, DC.

Sonya D. Coaxum has joined the Department of Physiology, Loyola University Medical Center, Maywood, IL, having moved from the Department of Pharmacology, University of Michigan, Ann Arbor, MI.

John Carl Criscione is currently affiliated with the Department of Biomedical Engineering, Texas A&M University, College Station, TX. Criscione was with the Department of Bioengineering and Medicine, University of California, San Diego, La Jolla, CA.

Bruno Grassi has joined the Department of Science and Biomec Technology, University of Milano, Segrate, Italy. Grassi had held a position with ITBA National Research Council, Segrate, Italy.

Diane M. Farrell has moved from the Department of Physiology, University of Texas Health Science Center, San Antonio, TX to accept a position with the Department of Biology, Trinity University, San Antonio, TX.

John T. Flaherty has affiliated with Transkaryotic Therapies, Inc., as Vice President of Medical Affairs, Cambridge, MA, moving from Sonus Pharmaceuticals, Bothell, WA.

Marguerite Hatch has joined the Department of Pathology, University of Florida College of Medicine, Gainesville, FL. Previously, Hatch was with the Department of Nephrology and Pediatrics, Northwestern University, Chicago, IL.

Peter J. Hornsby has moved from The Huffington Center on Aging, Baylor College of Medicine, Houston, TX and joined the Department of Physiology, University of Texas Health Science Center, San Antonio, TX.

Stuart Donald Inglis has affiliated with the Ohio University Department of Biological Sciences, Athens, OH. Recently, Inglis moved from the Department of Kinesiology, University of Western Ontario, London, Ontario, Canada.

Sarinee Kalandakanond has joined the Department of Physiology, Faculty of Veterinary Science, Chulalongkorn

University, Bangkok, Thailand moving from the Department of Physiology and Pharmacology, Athens, GA.

Allison M. Kitten has moved from the Ernest Gallo Clinic and Research Center, Emeryville, CA, and recently affiliated with the The Jackson Laboratory at UC Davis, Davis, CA, as Manager, Physiogenomics.

Bohdan P. Kolomiets has accepted the position of Chair of Neuropharmacology College de France, Paris, France. Previously, Kolomiets was affiliated with the Bogomoletz Institute of Physiology, Kiev, Ukraine.

Mahmoud Loghman-Adham has moved from the St. Louis University, St. Louis, MO, to Roche Pharmaceutical Company, Nutley, NJ.

Christine Maric has joined the Department of Medicine, Division of Nephrology and Hypertension, Georgetown University Medical Center, Washington, DC. Maric moved from the Department of Anatomy and Cell Biology, University of Melbourne, Melbourne, Victoria, Australia.

Edward R. McFadden is now a member of the Metrohealth Medical Center, Division of Pulmonary & Critical Care Medicine, Cleveland, OH. Prior to his new affiliation, McFadden was with the University Hospitals of Cleveland, Division of Pulmonary and Critical Care, Cleveland, OH.

Shaun F. Morrison. has moved from the Department of Physiology, Northwestern University Medical School, Chicago, IL and accepted a position with the Neurological Sciences Institute, Oregon Health Sciences University, Beaverton, OR.

Akira Nishiyama is now an Assistant Professor, Department of Pharmacology, Kagawa Medical University, Kagawa, Japan. Prior to his new position, Nishiyama was with the Department of Physiology, Tulane University School of Medicine, New Orleans, LA.

Andre Obenaus is presently the Director of the Imaging Lab, Department of Radiation Medicine, Loma Linda, CA, having moved from the Department of Medical Imaging, Royal University Hospital, Saskatoon SK, Canada.

Helen Louise Reeve has joined the Department of Clinical Programs, Guidant Corporation, St. Paul, MN. Previously, Reeve had been with the Department of Medicine and Physiology, VA Medical Center, Minneapolis, MN.

Ann M. Schreihofer has moved from the Department of Pharmacology, University of Virginia Health Systems, Charlottesville, VA and accepted a position with the Department of Physiology, Medical College of Georgia, Augusta, GA.

Stephen M. Secor has accepted a position with the Department of Biological Sciences, University of Alabama, Tuscaloosa, AL. Prior to his new assignment, Secor was associated with the Department of Biology, University of Mississippi, University, MS.

Vladimir B. Serikov has accepted a position with the Department of Pulmonary Research, Children s Hospital Oakland Research Institute, Oakland, CA. Prior to his new appointment, Serikov was with the Institute of Molecular Pharmacology & Biophysics, University of Cincinnati, Cincinnati, OH.

Alexander Serra has moved from the Department of Physiology, Medical College of Wisconsin, Milwaukee, WI and joined the Department of Pediatric Surgery, Technische University, Dresden, Germany.

Mark D. Slivkoff has joined the Bio-Rad Laboratories, Life Science Group, Hercules, CA. Prior to his new appointment, Slivkoff was with the Department of Biomedical Engineering, University of Arizona, Tucson, AZ.

Rachel Dean Smetanka has moved from the Department of Internal Medicine and Exercise Science, University of Iowa Hospital, Iowa City, IA and joined the Department of Obstetrics and Gynecology, University of Vermont, Burlington, VT.

David W. Stepp has accepted a position with the Vascular Biology Center, Medical College of Georgia, Augusta, GA. Prior to this appointment, Stepp was with the Department of Physiology, Medical College of Wisconsin, Milwaukee, WI.

Shu-Yu Sun has joined the Department of Pharmacology, Merck & Company, Inc., Rahway, NJ, as a Senior Research Biologist. Sun was previously associated with the Department of Physiology and Biophysics, University of Nebraska Medical Center, Omaha, NE.

Erik Svensjo has moved from the Experimental Division, Institute of Caracao, Sao Paulo, Brazil, and accepted a position with the Laboratory of Molecular Immunology, Federal University of Rio De Janeiro, Brazil.

Theresa D. Sweeney has moved from the Department of Pharmaceutical R&D, Genentech Inc., South San Francisco, CA to a position with Inhale Therapeutic Systems, San Carlos, CA.

M.A. Hassan Talukder has moved from the Department of Pharmacology, East Carolina University School of Medicine, Greenville, NC to join the Department of Cardiovascular Medicine, Kyushu University, Fukuoka, Japan.

Balazs Toth has affiliated with the Department of Surgery and Center for Surgical Research, University of Alabama, Birmingham, AL. Prior to his new affiliation, Toth was with the Department of Experimental Surgery, National Institute of Trauma, Semmelweis University, Budapest, Hungary.

Yuqi Wang has joined the Department of Biochemistry, University of North Carolina, Chapel Hill, NC and moved from the Department of Pharmacology, Yale University, New Haven, CT.

Brian J. Whipp has accepted a position with the Centre for Exercise Science and Medicine, University of Glasgow, Glasgow, Scotland. Prior to his new assignment, Whipp was with the Department of Physiology, St. George s Hospital Medical School, University of London, London, England.

Christopher Glenn Wilson has affiliated with the Department of Pediatrics and Neonatology, Case Western Reserve University, Cleveland, OH. Previously, Wilson was with the Department of Neurological Disorders and Stroke, NIH, Bethesda, MD.

Roger T. Worrell has accepted a position with the Department of Surgery, University of Cincinnati, the Vontz Center for Molecular Studies, Cincinnati, OH. Worrell was previously associated with the Department of Physiology, Emory Medical School, Center for Cell and Molecular Signaling, Atlanta, GA.

Announcements

New APS Membership Benefit: Free Access to All APS Online Journals

Effective December 1, 2001, American Physiological Society members (in good standing) will be receiving the APS Online Collection of Journals free as a member benefit.

If you have previously activated a paid subscription to the APS Online Collection, or activated your free *News In Physiological Sciences* (*NIPS*) subscription, then there is no action to be taken on your part. As of December 1, 2001 you will have automatic free access to our journals.

If you have not previously activated the APS Online Collection or *NIPS*, then please follow these simple steps to activate your APS Online Collection of Journals:

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Lake Cumberland Biological Transport Group Meeting

It is time to plan the 2002 Lake Cumberland Biological Tranport Meeting (affiliated with APS). The central theme of the meeting is biological transport, but presentations in other areas are welcome. This is an excellent forum for principal investigators, postdoctoral fellows, and graduate students alike to present their data and receive feedback.

The scientific sessions will be held in the mornings and evenings on Sunday, June 16 to Tuesday, June 18. Afternoons are free to enjoy swimmimg, fishing, golfing, riding, hiking, or any of the other activities available at the site of the meeting, Lake Cumberland State Resort Park, Jamestown, KY.

For more information, contact:

Eric Delpire
Vanderbilt University
Nashville, TN 37232
Tel: 615-343-7409
Fax: 615-343-3916
Email: eric.delpire@mcmail.vanderbilt.edu

Thomas Brown
Wrigt State University
3640 Colonel Glenn Highway
Dayton, Ohio 45435
Tel: 937-775-3809
Fax: 937-775-3769
E-mail: thomas.l.brown@wright.edu

March 1

Sex Begins in the Womb a Scientific Advisory Meeting, Palo Alto, CA. *Information:* Society for Women's Health Research, 1828 L Street, N.W., Suite 625 Washington, DC 20036. Tel: 202-223-8224; Fax: 202-833-3472; Email: information@womens-health.org; Internet: http://www.womens-health.org.

March 13-15

3rd International Amsterdam Mouse Symposium, Amsterdam, The Netherlands. *Information:* International Society for Heart Research and its European Section. Tel: +31 20 5665242; Fax: +31 20 6977004; Email: symposium@mousephysio.com; Internet: http://www.mouse-physio.com.

March 22-24

Evolution: Understanding Life on Earth, American Institute of Biological Sciences, Washington, DC Metro Area. *Information:* AIBS, 1313 Dolley Madison Blvd., Suite 402, McLean, VA. Tel: 1-800-992-2427; Fax: 703-790-2672; Email: meeting2002@aibs.org.

March 24-26

The Amygdala in Brain Function: Basic and Clinical Approaches, Galveston Island, Texas. *Information:* New York Academy of Sciences, 2 East 63rd Street, New York, NY 10021. Tel: 212-838-0230 ext. 324; Fax: 212-838-5640; Email: conference@nyas.org; Internet: http://www.nyas.org/scitech/contents/amyg/index.html.

April 21-25

Forefronts in Nephrology: ABC Casette Proteins in Epithelial Physiology, Ascona, Switzerland. *Information:* International Society of Nephrology. Internet: http://www.unizh.ch/physiol/ABC.

April 24-27

Meeting of the Americas II, Millennium Broadway Hotel, 145 W. 44th St., New York, NY 10701. *Information*: North American Spine Society, 22 Calendar Ct., 2nd Floor, LaGrange, IL 60525. Tel: 708-588-8080; Fax: 708-588-8010; Email: bacon@spine.org

April 30-May 3

1st International Conference on NAD(P)H Oxidases, Castle of Rauischholzhausen, Frankfurt/Main, Germany. *Information:* http://www.med.uni-giessen.de/rbi/noxmeeting/index.php.

May 5-10

The Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Fort Lauderdale, FL. *Information:* ARVO Offices, 12300 Twinbrook Parkway, Suite 250, Rockville, MD 20852-1606. Tel: 240-221-2900; Fax: 240-221-0370; Internet: http://www.arvo.org.

May 18-24

International Society for Magnetic Resonance in Medicine - Tenth Scientific Meeting and Exhibition, Honolulu, HI. *Information:* International Society for Magnetic Resonance in Medicine, 2118 Milvia Street, Suite 201, Berkeley, CA 94704. Tel: 510-841-1899; Fax: 510-841-2340; Email: info@ismrm.org; Internet: http://www.isrm.org.

May 14-18

29th Annual Meeting of The International Society for the Study of the lumbar Spine, Cleveland, OH. *Information:* The International Society for the Study of the Lumbar Spine, 2075 Bayview Avenue, Room MG323, Toronto, Ontario, Canada, M4N 3M5. Tel: 416-480-4833; Fax: 416-480-6055; Email: shirley.fitzgerald@swchsc.on.ca

May 22

Annual Symposium on Biomedical Engineering - Support of the Failing Heart: From Devices to Molecules, Radisson Hotel Metrodome, Minneapolis, MN. *Information*: http://www.bmei.umn.edu.

May 27-June7

International Course on Laboratory Animal Science, Utrecht, The Netherlands. *Information:* Prof. dr. L.F.M. van Zutphen or Mr. Stephan van Meulebrouck, Department of Laboratory Animal Science, Faculty of Veterinary Medicine, P.O. Box 80.166, 3508 TD Utrecht, The Netherlands. Tel: 31-30-2532033, Fax: 31-30-2537997; Email: pdk@las.vet.uu.nl

May 29-June 1

Xth International Conference on Myasthenia Gravis and Related Disorders, Key Biscayne, Florida. *Information:* New York Academy of Sciences, 2 East 63rd Street, New York, NY 10021. Tel: 212-838-0230 ext. 324; Fax: 212-838-5640; Email: conference@nyas.org; Internet: http://www.nyas.org/calendar/contents/cal_conf.cfm.

June 2-7

European Life Sciences Symposium: Life in Space for Life on Earth, Stockholm, Sweden. *Information:* Benny Elmann-Larsen or Rebecca Forth, European Space Agency, ESTEC, MSM-GAL, 1 Keplerlaan, NL-2201 AZ, Noordwijk, The Netherlands. Tel: +31-71-565-3322; Fax: +31-71-565-3661; Email: bellman@estec.esa.nl or rebecca.forth@estec.esa.nl.

June 3-6

Critical Issues in Tumor Microcirculation, Angiogenesis and Metastasis: Biological Significance and Clinical Relevance, Boston, MA. *Information:* Internet: http://steele.mgh.harvard.edu.

June 5-9

XXVII FIMS World Congress of Sports Medicine, Budapest, Hungary. *Information:* Hungarian Society of Sports Medicine, 1123 Budapest, AlkotÆs str. 48. Hungary. Tel: +36 1 4886 189, +36 1 4886 191; Fax: +36 1 375 3292; Email: mar12880@helka.iif.hu; Internet: http://www.sportdoctor.org.

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Do you currently hold membership in the APS? ❑ Yes ❑ No

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Institution Street Address_____

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EDUCATIONAL STATUS ***(Important: if you are enrolled as a student, include the degree and pending date of completion)

Dates*	Degree*	Institution	Major Field	Advisor

DOCTORAL DISSERTATION TITLE (if applicable):_____

_____

POSTDOCTORAL RESEARCH TOPIC (if applicable):_____

_____

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OCCUPATIONAL HISTORY [Check if student ❒]

Current Position:

Dates	Title	Institution	Department	Supervisor

Prior Positions:

Dates	Title	Institution	Department	Supervisor

LIST YOUR PUBLICATIONS FROM THE PAST 5 YEARS (List them in the same style as sample below).

Sample: Cheung, Stephen S., and Tom M. McLellan. Heat acclimation, aerobic fitness, and hydration effects on tolerance during uncompensable heat stress. J. Appl. Physiol. 84(5): 1731-1739, 1998.

IMPORTANT INFORMATION:

Do not include a curriculum vitae or reprints.

Mail your application to: Membership Services Department, The American Physiological Society
9650 Rockville Pike, Bethesda, Maryland 20814-3991 (U.S.A.)

Send no money now: You will receive a dues statement upon approval of membership.

Approval Deadlines: Regular membership applications are considered for approval by the Council three times per year. Student and Affiliate membership applications are accepted monthly upon approval of the Executive Director of the Society.

Questions? Call: 301-530-7171 ▪ Fax: 301-571-8313 ▪ E-mail: members@aps.faseb.org ▪ Web: www.the-aps.org

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