



The Physiologist

Animal Personhood—A Threat to Research?

Steve Michael

Vice President and General Counsel
Policy Directions, Inc.

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2005

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In a focused and determined effort to grant additional legal rights and protections for animals, including animals involved in research, lawyers within the animal rights movement have begun to lay the groundwork for testing new legal theories. Even though many lawyers involved in this new movement are sincere in their concern about the treatment of animals, many are also flatly opposed to the use of animals in research.

This long-term, step-by-step strategy includes a multi-front campaign to: toughen state animal cruelty laws; authorize non-economic damage awards (i.e., pain and distress, loss of companionship, etc.) for cases in which animals are killed or harmed; establish new legal torts through judge-made case law; replace the term "owner" with "guardian" in local and state statutes; enact laws that allow trusts to be set up for family pets; make it easier to file lawsuits by eliminating standing requirements and permitting a private right of action under the Animal Welfare Act (AWA); and eventually establish a form of legal personhood for some species of animals. While many of these strategies do not appear, at first glance, to affect laboratory animals, the "sum of their parts" has the potential to have a significant impact on life-saving medical and scientific research.

This movement is being driven by an increasingly sophisticated group of highly skilled lawyers. However, leaders in the new field of animal law acknowledge they do not know which legal theories will best advance their objectives. This point is illustrated by a quote from

Joyce Tischler, executive director of the Animal Legal Defense Fund. Tischler wrote in the epilogue of the animal law casebook used at most law schools:

"When and how legal rights for animals will be established is as yet unknown. We are only beginning to explore the legal theories that may be argued. Perhaps a student reading this casebook today will be part of the effort to achieve that breakthrough."(1)

The campaign to provide new legal rights for animals has received increasing attention in the press over the last few years. Much of the press attention has been centered on Steven Wise's second book, *Drawing the Line: Science and the Case for Animal Rights*. Wise is a practicing attorney and the first person to teach animal law at Harvard Law School. He taught animal law at several other law schools around the country and is one of the leading advocates for establishing legal "personhood" for some animals.

Wise is not alone. A growing number of animal rights lawyers are writing about this issue, lobbying for changes in state and federal laws, and filing suit in state and federal courts.

Many of the most outspoken advocates of new legal rights for animals candidly acknowledge they oppose all animal research. Two years ago, I attended a symposium at Harvard Law School featuring legal scholars and lawyers who discussed the possibility of obtaining legal rights for chimpanzees and other great apes. I asked the fol-

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Published bimonthly and distributed by
The American Physiological Society

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

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Subscriptions: Distributed to members as part of their membership. Nonmembers in the USA: individuals \$60.00; institutions \$90.00. Nonmembers in Canada and Mexico: individuals \$65.00; institutions \$95.00. Nonmembers elsewhere: individuals \$70.00; institutions \$100.00. Single copies and back issues when available, \$20.00 each; single copies and back issues of Abstracts issues when available, \$30.00. Subscribers to *The Physiologist* also receive abstracts of the Conferences of the American Physiological Society.

The American Physiological Society assumes no responsibility for the statements and opinions advanced by contributors to *The Physiologist*.

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 APS Membership Department as soon as possible if you change your address or telephone number.

Headquarters phone: 301-634-7118

Fax: 301-634-7241

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Printed in the USA

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lowing question at the end of one of the panel discussions: "Under what circumstances would it be permissible to use chimpanzees in medical research? Is it always wrong? Morally wrong? If there were significant and clear benefits for finding cures to serious illnesses, would it then be permissible to use chimpanzees in research?" Each of the panelists responded to this question. Below are selected excerpts from each response.

Steven Wise: "Well, at least legally, and probably morally, the only time I believe one should be able to use a chimpanzee in research is a situation where one would also use a four-year-old human child. Not many."

Roger Fouts (Roger S. Fouts is a Professor of Psychology and Co-Director of the Chimpanzee-Human Communication Institute): "Why are we afraid of death, when it is such a natural thing? Why do we have to take an endangered species [chimpanzees] to help an overpopulated species [humans] to become more overpopulated?"

David Favre (David S. Favre is Senior Associate Dean/Professor of Law at Detroit College of Law, Michigan State University): As part of his response to my question, Steven Wise asked David Favre to explain how Favre's concept of a new legal tort (i.e., legal wrong for which a court would award damages) would apply when a biomedical experiment on a chimpanzee might advance human health. Favre called this new tort, "intentional interference with the primary interests of a chimpanzee." Favre's response to the question was, "Well, I think that is a false premise. I don't know the fact pattern where you could say doing x to x chimpanzee is going to produce a saved human life. The reality of how science works just does not allow that fact pattern to come up. But yes, you are suggesting an absolute right. I am suggesting the relative right of a balancing of interests. But I feel comfortable that in ninety-nine percent of the

cases, we end up saving the chimpanzee."

To address this clear threat to animal research, several scientific organizations including APS, FASEB, ASPET, AAA, AAMC, the Society for Neuroscience, the American College of Neuropsychopharmacology (ACNP), and the American Academy of Neurology (AAN), initiated a project coordinated through the National Association for Biomedical Research (NABR) aimed at developing a coherent legal strategy to address these new "animal law" and "legal personhood" initiatives. This is a five-year effort, starting first with a foundation of legal research, followed by a legal and political strategy that would also include coalition building and outreach. The ultimate goal of the project is to be fully prepared when and if a significant "personhood" or other "animal law" case is brought before a federal or state court.

What is Personhood?

The term "personhood" for animals is widely used among animal rights lawyers and advocates, their opponents, and the popular media. There is no single meaning to this term, nor are the implications clear if "personhood" is granted to animals. What does it mean to grant personhood to animals? Should all animals be granted personhood or only some? If some, how do we decide which ones? Should it be those that exceed a certain threshold of cognitive abilities, or those we especially love as pets?

There are no answers to these questions. Those of us concerned about the implications to research if this movement gains steam don't fully understand this term, but neither does the other side.

Wise, who has done the most to popularize the notion of personhood for animals, has a narrow view of what this means. He believes certain animals should be granted basic legal rights because they have mental abilities sufficiently similar to humans. For Wise, the basic right to be conferred is the right to bodily integrity, which means no captivity and no invasive medical research.

Wise argues basic rights should be granted to certain animals on two sep-

arate legal grounds, 1) liberty and 2) equality. For both, the essence of his argument is that likes should be treated alike. Certain animals are so much like humans, based upon their mental abilities, they should enjoy at a minimum, the basic legal rights afforded to the least capable humans.

Not all animal lawyers or animal rights advocates agree with this notion. In fact, most do not. The most prominent legal scholars who have spoken on animal rights issues have not endorsed the "personhood" argument as presented by Wise.

Many legal scholars believe personhood should be bestowed upon animals in a legal sense, but not for the purposes of establishing "rights." What is the difference? The law often allows legal issues to be decided in a manner that might otherwise be precluded, referring to these as "legal fictions." For example, the law confers "personhood" on many inanimate objects. Corporations and partnerships are legal persons under the law. So are certain churches, families, labor unions, municipalities and states. Specific ships and oil rigs can be considered "persons" under the law. They all can sue and be sued. The argument is why animals should be excluded from this legal fiction.

Two very prominent legal scholars, Laurence Tribe and Cass Sunstein, subscribe to this view of personhood. (Tribe is the Ralph S. Tyler, Jr. Professor of Constitutional Law, and Carl M. Loeb University Professor at Harvard Law School. Tribe is arguably the most prominent constitutional law scholar in the country. His constitutional law treatise was the most widely cited legal document of the 20th century. Cass R. Sunstein is the Karl Llewellyn Distinguished Service Professor at the University of Chicago and has written extensively on animal law issues.) They agree legal personhood should be granted to permit animals' representatives to file a lawsuit to enforce existing rights, not necessarily to establish new rights. This still represents a significant threat to the research community, but it's not the same personhood argument being made by Wise.

Many other animal lawyers and ani-

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mal rights groups seem to view the personhood issue in the context of the current treatment of animals as property under state laws. For many, the significance of eliminating the property status of animals allows much higher damage awards in lawsuits involving pets and other animals.

So how do we get to personhood? Obviously the answer to this question depends upon your definition. Those with views similar to Tribe and Sunstein are seeking statutory changes to the Animal Welfare Act, as well as changes to state animal protection laws.

Those who want to eliminate the property status of animals are seeking changes to state statutes, as well as local and municipal ordinances. In addition, lawsuits aimed at changing state common law are being brought by animal lawyers across the country. Many of these lawsuits are asking state judges to use their common law powers to change the law. Lawsuits have been filed seeking damages for intentional or negligent infliction of emotional distress in cases in which a pet has been killed or harmed. Loss of companionship cases and veterinary malpractice cases are increasingly being filed. All of these activities, if successful, will have the effect of breaking down the traditional view of animals as property under the law.

Those with more radical views about personhood, like Wise, understand that their view of animals will best be accepted by using a step-by-step approach. They seek small gains wherever they can be achieved. Each success will be followed by new, modest, and attainable goals. They are taking a long-term view. Wise likes to

quote economist Robert Samuelson who said: "Progress occurs funeral by funeral." (2) Wise uses this quote in the context of court decisions. He believes as older judges who are wedded to certain precedents die off, new, younger judges who once may have been animal rights lawyers will be in a position to establish law more favorable to the animal rights community.

Wise understands establishing his view of personhood for animals must be preceded by significant social and legal change. Even if the day comes when he believes some judges in some courts are ready to establish new legal precedents, Wise would continue with his step-at-a-time approach. He would first ask that legal personhood be granted to several of the great apes. As we increase our knowledge of other animals, personhood could be expanded to other species as courts and legislatures become more willing to establish new legal rights.

Many other animal rights lawyers are also content to implement a long-term, step-by-step strategy. This strategy, though not necessarily coordinated, involves a multi-front campaign to slowly but consistently change the attitudes of the public who will then influence public policy and future court decisions. They will continue to push for new laws to increase the regulatory burden on researchers and institutions, and many will advocate for an outright ban on animal research.

Animal rights lawyers and advocates have had some success. For example:

several jurisdictions have enacted "pet guardian" laws—twelve municipalities and the State of Rhode Island. In 1995, nine states had felony

anti-cruelty laws. Today, 41 states and the District of Columbia have felony statutes, and every year new felonies and tougher penalties are enacted by state legislatures.

animal law is or has been taught at approximately 39 of the nation's 180 law schools.

47 law schools have student animal legal defense groups, and 14 more are forming.

state, regional, and local bar associations are adding new animal law committees and sections to advocate for new animal rights and protections.

the Animal Legal Defense Fund (ALDF) boasts it has hundreds of dedicated attorneys working in the "emerging field of animal law."

There aren't any clear answers to the question of how the research community should respond to this growing threat. This is an evolving field of law and in that sense, efforts to address new legal challenges is akin to shooting at a moving target. We do not know when or how these challenges will be presented, but we do know a large number of talented and committed animal law advocates are seeking to limit severely or prohibit any animal research. The research community can, and must, rise to this challenge. ❖

References

1. **Tischler, Joyce.** Epilogue to Sonia S. Waisman et al., *Animal Law, Cases and Materials* at 747 (2nd ed. 2002).
2. **Wise, Steven M.** Address at the 5th Annual Conference on Animals and the Law, hosted by the Committee on Legal Issues Pertaining to Animals of the Association of the Bar of the City of New York (September 25, 1999).

Get Involved With APS Committees!

The American Physiological Society provides its membership with opportunities to be involved with the Society through service on its various committees. Committees and committee members are appointed by the Council of APS at the recommendation of the Committee on Committees.

Members are appointed to a three-year term commencing on January 1. Committee appointments are staggered so that only a limited number of the members rotate off a committee at the end of each year.

Members interested in committee service should complete the nomina-

tion form and submit it for consideration by the Committee on Committees and Council. The form is available to be downloaded at <http://www.the-aps.org/committees>.

Deadline for receipt of Candidate Information and Endorsement Forms is January 14, 2005. ❖

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Call for Nominations for the Eminent Physiologist Program

Description

In 2005, the American Physiological Society will implement an Eminent Physiologist Program with the goal of establishing and preserving a living history of physiology and the Society by identifying members whose extraordinary accomplishments have significantly advanced the discipline and profession of physiology. Their lives, scholarly contributions, research achievements, leadership attainments, honors, as well as their visions for the future of physiology will be highlighted in video-taped interviews. These interviews will become an integral part of the archival history of the Society that will be available to the APS membership.

Eligibility

The Eminent Physiology Program is open to all APS members who have

been in good standing for 15 years or longer. Eligible members must be 70 years or older as of July 1, 2004 whose extraordinary achievements in research, education, and service have significantly advanced the discipline and profession of physiology.

Nominations

Eligible members can be nominated individually, by clusters of members, Groups or Sections. Nomination packets should contain: 1) a nomination letter detailing the extraordinary achievements of the candidate that has significantly advanced the discipline and profession of physiology; 2) signature(s) with the title(s), and institution(s) of the nominator(s); 3) a complete curriculum vitae of the nominee; and 4) a limit of 10 supporting documents (journal articles, listing of honors, listing of books, etc.). On or

before **January 5, 2005**, these nomination packets are to be submitted to: APS Eminent Physiologist Committee, c/o American Physiological Society, 9650 Rockville Pike, Bethesda, MD 20814-3991.

The Review Process

All nominations will be evaluated by members of the Eminent Physiologist Committee who will forward their selection recommendations to the APS Council for final approval.

Contact Information

Inquires concerning any aspect of the nomination process should be directed to: The American Physiological Society Executive Office, 9650 Rockville Pike, Bethesda, MD 20814-3991; Tel.: 301-634-7118; Email: info@the-aps.org ❖



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2004 APS/NIDDK Minority Travel Fellows Attend Conferences in Washington, DC, Snowmass, and Austin

The APS regularly awards Travel Fellowships for under-represented minority scientists and students to attend APS scientific meetings with funds provided by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). These Fellowships provide funds for registration, transportation, meals, and lodging for travel to a meeting location, as well as complimentary meeting registration. Fifty-five Fellows attended the APS annual meeting, "Experimental Biology" in Washington, DC from April 17-21, 2004. Two Fellows attended the APS Translational Research Conference on "Immunological & Pathophysiological Mechanisms in Inflammatory Bowel Disease" from September 8-11, 2004 in Snowmass Village, CO and seven Fellows attended the APS Intersociety Meeting on "The Integrative Biology of Exercise" from October 6-9, 2004 in Austin, TX.

Fellows in the NIDDK Minority Travel program not only received financial support to attend these meetings, but were also provided professional guidance through pairings with APS members who served as mentors to the Fellows for the duration of the conference. Thanks to the time and expertise offered by mentor volunteers, Fellows were able to maximize their time and more fully experience the many aspects of each conference.

The travel awards are open to graduate students, post-doctoral students, and advanced undergraduate students from minority groups underrepresented in science (i.e., African Americans, Hispanics, Native Americans, and Pacific Islanders). Students must be US citizens or permanent residents. The specific intent of this award is to increase participation of pre- and postdoctoral minority students in the physiological sciences. For more information, contact Brooke Bruthers in the APS Education Office at 301-634-7132 or bbruthers@the-aps.org, or visit http://www.the-aps.org/education/minority_prog/index.htm on the APS website.

Fellows at "Experimental Biology 2004":



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APS/NIDDK Minority Travel Fellows at Experimental Biology 2004.



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Gina Schatteman, Univ. of Iowa
Laura Gerard Koch, Medical College of Ohio
Margaret Brosnan, Baylor College of Medicine
Rolando E. Rumbaut, Baylor College of Medicine
John Spitsbergen, Western Michigan Univ.
Colleen Talbot, California State Univ.

Rudy M. Ortiz, Tulane Univ.
C. Wayne Smith, Baylor College of Medicine, Children's Nutrition Research Center
Lisa M. Harrison-Bernard, Louisiana State Univ.
Martin Farias III, Univ. of Washington School of Medicine
V. Reggie Edgerton, UCLA
Keri Kles, Univ. of Chicago
Charles H. Lang, Pennsylvania State College of Medicine
William J. Welch, Georgetown Univ.
Parimal Chowdhury, University of Arkansas for Medical Sciences
Suzanne M. Schneider, Univ. of New Mexico
Usha Raj, Harbor-UCLA Research & Education Inst.
John Cuppoletti, Univ. of Cincinnati College of Medicine
Ollie Kelly, Emory Univ.
Steve Britton, Medical College of Ohio
Chet Ray, Penn State Univ. College of Medicine
Melinda R. Dwinell, Medical College of Wisconsin
Thomas A. Pressley, Texas Tech University HSC.



Fabio Cominelli, one of the "Immunological & Pathophysiological Mechanisms in Inflammatory Bowel Disease" conference organizers, presents certificates to the travel fellows, **Carmencita Rojas Cartagena** and **Gerardo Hernandez**, along with organizer **Matthew B. Grisham**.

Fellows at "Immunological & Pathophysiological Mechanisms in Inflammatory Bowel Disease:"

Carmencita Rojas Cartagena, Ponce School of Medicine
Gerardo A. Hernandez Buitrago, Ponce School of Medicine.

APS Mentors at "Immunological & Pathophysiological Mechanisms in Inflammatory Bowel Disease:"

D. Neil Granger, LSU Health Sciences Center
Matthew B. Grisham, LSU Health Sciences Center.



APS/NIDDK Minority Travel Fellows at Experimental Biology 2004.

Fellows at "The Integrative Biology of Exercise:"

Christopher Mendias, Univ. of Michigan
Phillip D. Palmer, Meharry Medical College
Rhonda Prisby, Texas A&M Univ.
Karma M. Rabon-Stith, Univ. of Maryland, College Park

James Recinos, California State Univ., Northridge

William Richards, The Ohio State Univ.

Alberto F. Vallejo, Univ. of Southern California.

APS Mentors at "The Integrative Biology of Exercise:"

Marcas M. Bamman, Univ. of Alabama, Birmingham

Maurice H. Laughlin, Univ. of Missouri, Columbia

James W.E. Rush, Univ. of Waterloo

Timothy P. Gavin, East Carolina Univ.

Dee U. Silverthorn, Univ. of Texas

Francisco H. Andrade, Univ. of Kentucky

Lori Ploutz-Synder, Syracuse Univ.

EXPERIMENTAL BIOLOGY 2005
April 2 - 6, 2005
and the
XXXV IUPS MEETING
March 31 - April 5, 2005
San Diego Convention Center, San Diego, CA

CALL FOR LATE-BREAKING ABSTRACTS

Deadline for Submission:
Wednesday, February 9, 2005

Late-breaking abstracts will be accepted for special poster sessions to be scheduled on Tuesday, April 5, 2005. Late-breaking abstracts will be published in an addendum to the meeting program. The addendum will be distributed at the meeting. Late-breaking abstracts will NOT be published in *The FASEB Journal* and are not citable.

Abstracts must be submitted at <http://www.faseb.org/meetings/eb2005> with payment of \$90. Payment and abstracts must be submitted on or before Wednesday, February 9, 2005. The submission site will open on Monday, December 6, 2004.

For information about the meeting, including each Society's preliminary program, housing, and registration forms, please visit our official Web Site at:

<http://www.faseb.org/meetings/eb2005>

Abstract submission site

<http://www.faseb.org/meetings/eb2005>

Abstract Submission Fee: \$90

Questions contact:

**Experimental Biology/IUPS 2005
Meeting Office**

Tel.: 301-634-7010

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Email: eb@faseb.org

**Save Money! Register online by February 4 and make
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Beyond Impact Factors: Understanding the Data in the Journal Citation Reports

Marie E. McVeigh, Product Development Manager
Thomson ISI products

Each June, authors, editors, librarians, and publishers eagerly await the Thomson Scientific release of the new *Journal Citation Reports*® (*JCR*®) containing the *JCR* Impact Factor and other citation statistics for the previous year. In 2004, the *Journal Citation Reports on the Web* (*JCR Web*) features not only a new year's data set, but also a new interface providing considerably more information about the journals' citation dynamics, the degree and type of interaction it has with the broader scientific literature, what citations contribute to the calculation of per-

formance metrics, and the average citation "life-span" of articles published in the journal.

More than an arcane resource for librarians, *JCR* is more and more a way for scientists and authors to identify the critical journals in their field, either to focus their reading or to help identify an appropriate and influential journal to which they can submit an article for publication. As a growing population of scientists use the *JCR* data, it is increasingly important that they use the information wisely to form an understanding of the journal.

This article will provide an overview of two new features in the 2003 *JCR Web*—navigational links to category information and the Cited Journal graph—and some explanation of their use in understanding the citation behavior of individual journals. The 2003 *JCR* data for the *American Journal of Physiology-Cell Physiology* will provide all the examples and images shown.

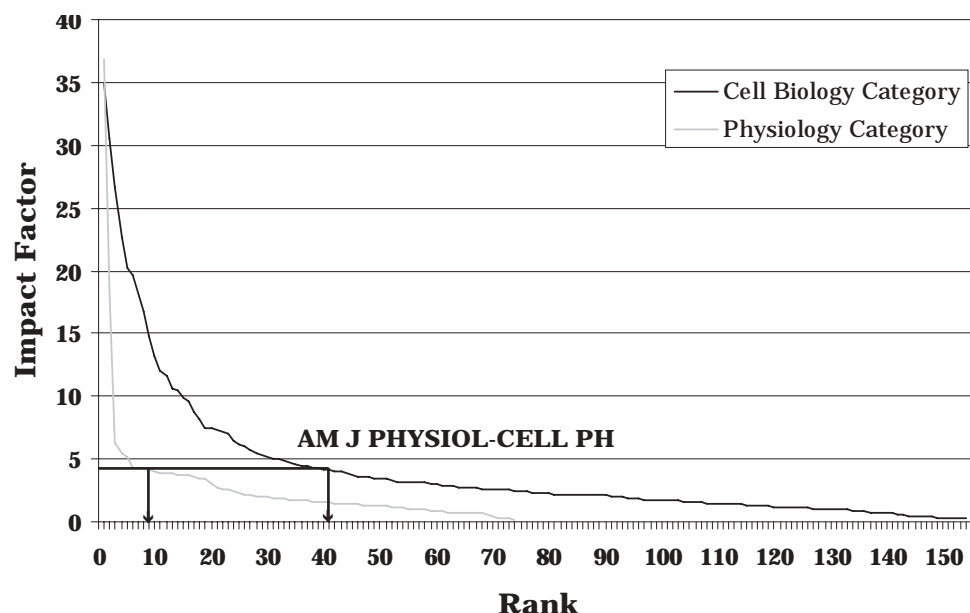
The *JCR* Impact Factor of each journal is often a matter of intense scrutiny for authors and editors of a publication. The *JCR* Impact Factor is an average rate of citation for articles one or two years after their initial publication (1). It is calculated by considering one year of indexed references from the 8,900 journals in the Thomson ISI citation databases. These citations are collected by the title of the journal referenced and filtered by the year referenced. The 2003 *JCR* Impact Factor for the *American Journal of Physiology-Cell Physiology* is calculated as follows. In 2003, Thomson ISI indexed 14,004 citations to *AM J PHYSIOL-CELL PH*. (Note: For indexing, titles are unified to a standardized, 20-character abbreviated title.) Of those citations, 1,221 referenced an item published in 2002, and 1,754 referenced an item published in 2001. Thus, the sum of the citations to articles in 2001 or 2002 is 2,975 (21% of the total number of citations to the journal in 2003). These citations are divided by the number of "citable items," that is, articles or reviews indexed by Thomson ISI from the *American Journal of Physiology-Cell Physiology* in 2001 and 2002. In 2001, Thomson ISI indexed 392 articles or reviews and 333 in 2002, a total of 725 items for the 2-year period. Therefore, the calculated *JCR* Impact Factor in 2003 is, as shown in the *JCR Web*.

Publication and citation prac-

Table 1. The JCR Impact Factor Calculation

Cites in 2003 to articles published in:			
	2002=	1,221	
	2001=	1,754	
	Sum:	2,975	(Cites to recent articles)
Number of articles published in:			
	2002=	333	
	2001=	392	
	Sum:	725	(Number of recent articles)
Calculation:	$\frac{\text{Cites to recent articles}}{\text{Number of recent articles}}$	$\frac{2,975}{725}$	= 4.103

Figure 1. Rank in Category vs. JCR Impact Factor



tices differ greatly among the many subjects covered in the *JCR-Science Edition*, and a *JCR* Impact Factor needs to be considered relative to the impact of other journals of similar types and subjects. Two new navigational links in the *JCR Web* provide assistance for understanding the Impact Factor. Each record in the *JCR Web* now contains a link to the scope note for the assigned category or categories for the journal. The scope notes are written and regularly updated by Thomson Scientific Editors to reflect the coverage and content goals of each category. This provides users with an understanding of how the journal is assigned to each category and what are considered journals of similar content.

Each assigned category has an additional link that goes to a summary page listing all the journals assigned

to or ranked in that category. The list can be sorted alphabetically or ranked by each of the major performance metrics: total citations, *JCR* Impact Factor, Immediacy Index, Cited Half-Life, or number of published articles in the most recent year. Moving from the journal to the category list is one way to encourage citation metrics being taken in a rational context of related materials.

While *JCR* Impact Factors are calculated independently of categorization, they can appear very differently in the context of different categories. The *American Journal of Physiology-Cell Physiology* is categorized both in the Cell Biology category and in the Physiology category. Its 4.103 Impact Factor ranks the journal at 41st among the 156 journals in the Cell Biology category—placing it just outside the top

25% of journals in that category. Journals in the Cell Biology category range in Impact Factor from over 35 (35.041 for *Nature Reviews Molecular Cell Biology*) to less than 0.5 for the last 10 journals in the ranked list.

In Physiology, however, *AM J PHYSIOL-CELL PH* ranks as 9th among the 74, or among the top 20% of journals in this category. Although the top-ranked journal in the Physiology category—*Physiological Reviews* with a 2003 Impact Factor of 36.831—is in the same range as that for the Cell Biology category, the Impact Factors drop more quickly as one moves down the ranked list (see Figure 1); thus, the same Impact Factor, when considered among a different population of journals, can result in a significant difference in rank. For journals in some subjects in engineering and applied sciences, the top-ranked journal in the category can have an Impact Factor below 1.0.

While these informational links place the *JCR* Impact Factor in the context of subject, the Cited Journal graph highlights the relationship between a journal's Impact Factor and its overall citation pattern. The graph is derived from the Cited Journal data that tabulate all journals that have cited *AM J PHYSIOL-CELL PH* during the year 2003, divided according to the year referenced. The top line of the Cited Journal data, shows the sum by cited year for all journals, thus, creating a time-course of citation activity (see Figure 2).

Plotting these data as cited year versus number of citations results in the Cited Journal Graph for *AM J PHYSIOL-CELL PH* in 2003 (see Figure 3).

The graph shows an age-profile of the *AM J PHYSIOL-CELL PH* articles that were cited in the year 2003. For example, 1,385 citations, nearly 10% of the total number of citations, are to articles published in *AM J PHYSIOL-CELL PH* in 2000. The dark grey sections on top of each column indicate journal self-citations, that is, instances when an article in *American Journal of Physiology-Cell Physiology* cited a previous article also in the journal. These data are also derived from the Cited Journal list. Journal self-citations are included in the calculation of all citation metrics, and they usually form a valid and valuable

Using the upgraded web-based Journal Citation Report, we calculated five-year Impact Factors for all the APS journals and some of their competitors.

-Margaret Reich, APS Director of Publications and Executive Editor

Journal	2003 IF	5-yr IF
AJP-Cell Physiology	4.103	3.969
<i>Cell</i>	26.626	27.413
<i>Journal of Biological Chemistry</i>	6.482	6.999
<i>Molecular Biology of the Cell</i>	7.454	7.344
<i>Journal of Clinical Investigation</i>	14.307	13.783
AJP-Endocrinology and Metabolism	3.828	3.712
<i>Endocrinology</i>	5.063	5.101
<i>Diabetes</i>	8.298	8.31
AJP-Gastrointestinal and Liver Physiology	3.421	3.522
<i>Gastroenterology</i>	12.718	12.199
<i>Hepatology</i>	9.503	8.505
AJP-Heart and Circulatory Physiology	3.658	3.635
<i>Circulation Research</i>	10.117	10.422
<i>Cardiovascular Research</i>	5.164	5.061
AJP-Lung Cellular and Molecular Physiology	3.735	3.835
<i>American Journal of Respiratory Cell and Molecular Biology</i>	4.015	4.222
<i>Experimental Lung Research</i>	1.345	1.541
AJP-Regulatory, Integr and Comparative Physiology	3.627	3.192
<i>Journal of Experimental Biology</i>	2.271	2.626
<i>Journal of Physiology-London</i>	4.352	4.491
AJP-Renal Physiology	4.344	4.314
<i>Journal of the American Society of Nephrology</i>	7.499	6.654
<i>American Journal of Kidney Diseases</i>	3.897	4.119
<i>Kidney International</i>	5.302	5.328
Journal of Applied Physiology	3.027	3.08
Journal of Neurophysiology	3.876	4.2
NIPS (now Physiology)	3.682	3.117
Physiological Genomics	4.368	NA
Physiological Reviews	36.831	35.652
Advances in Physiology Education	0.755	0.372

Figure 2. Cited Journal Data for AM J PHYSIOL-CELL PH.
(NOTE: The full list of citing journals contains 860 titles.)

All Years	14,004
2003	235
2002	1,221
2001	1,754
2000	1,385
1999	1,187
1998	1,320
1997	1,184
1996	1,202
1995	830
1994	746
Rest	2,940

scholarly acknowledgement of the literature published in the journal (2). Making these data readily apparent indicates how effectively the journal is interacting with the larger corpus of published material.

The first column in the Cited Journal graph contains citations that contribute to the Immediacy Index calculation. The graph highlights the fact that citation activity in the first year of publication is a minor component of the total citation activity. While some bibliometrics scholars have suggested that these citations be included in the Impact Factor, examin-

ing the time-distribution of citation suggests that first-year citation activity precedes the most active period of citation to a set of articles. While an important reflection of early acknowledgement, these citations should be considered separately from the key performance metric—the *JCR* Impact Factor.

The next two columns (cited years 2002 and 2001) indicate that sub-set of total citations that are used to calculate the *JCR* Impact Factor. The Cited Journal graph places these citations in the context of the total citations to the title in 2003. Reviewing the Cited Journal graphs for many journals reveals that this two-year window of analysis represents a time of most active change in citation rate for the vast majority of journals, even in diverse subjects. The *JCR* Impact Factor interval is chosen to represent a particularly dynamic period in the citation life-span of articles. The *JCR* Impact Factor is a powerful reflection of a journal's performance precisely because it contains this active period of change. However, presenting this short, responsive interval in the context of a 10-year period emphasizes other characteristics of the journal's citation performance.

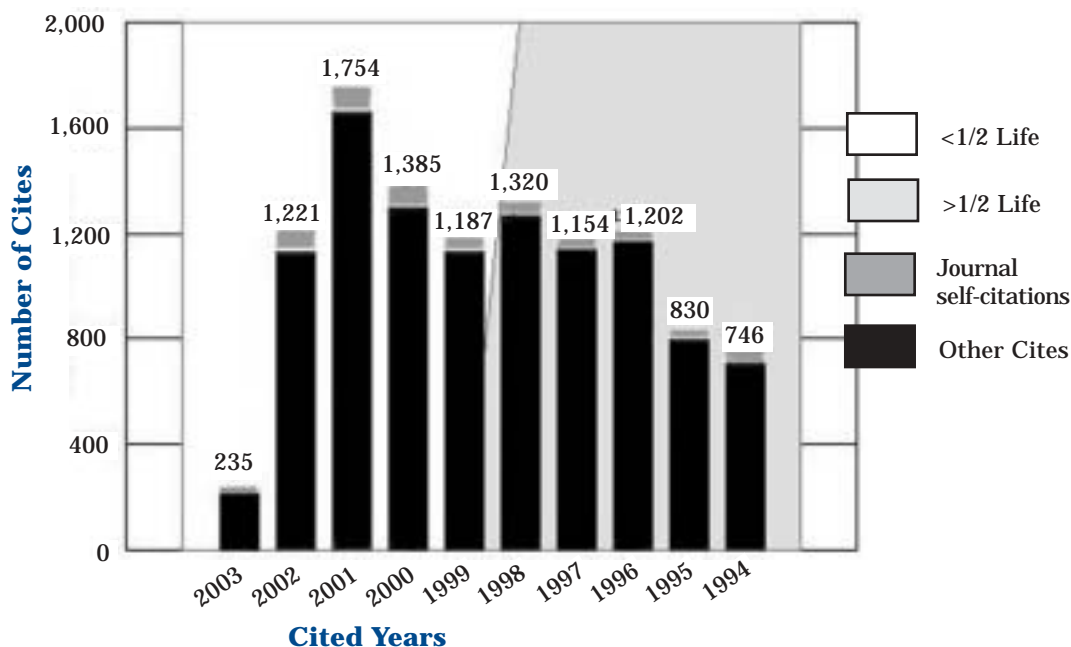
The 10-year period of citations to *AM J PHYSIOL-CELL PH* shows that citation activity peaked two years post-

publication. However, there is a distinct plateau across the six years from 2003 to 1996, during which articles published in *AM J PHYSIOL-CELL PH* were still actively participating in scholarly communication. Citations markedly drop after that, although there are still citations to articles 15 or more years after publication.

While longer-interval metrics, designed to complement the two-year interval of the *JCR* Impact Factor, are being studied now, the Cited Journal graph's 10-year display does provide a way for users of the *JCR* to evaluate the longer-term citation activity of a journal. An additional reference-point for this type of analysis is the Cited Half-life. On the Cited Journal graph, Cited Half-Life appears as a grey-white division of the background. Half of a journal's citations are to articles published before the cited half-life, which indicates the average citation life-span of articles in the journal.

The Journal Citation Reports is an invaluable resource for information about a journal's influence and impact. While the *JCR* Impact Factor is used most often as a reflection of the journal's performance, the additional data on citation behavior offers critical context for the correct understanding of this metric.

Figure 3. Citations to the journal (per cited year). This graph shows the distribution by cited year of citations to articles published in the journal AM J PHYSIOL-CELL PH.



References

1. Garfield E. "Journal Impact Factor: A Brief Review." *Canadian Medical Association Journal*, 161(8), p.979-80, 1999. <http://www.garfield.library.upenn.edu/papers/journalimpactCMAJ1999.pdf>
2. McVeigh, ME. "Journal self-citation in the Journal Citation Reports® - Science Edition (2002): A Citation Study from The Thomson Corporation" <http://www.isinet.com/essays/journalcitationreports/8236411/>.

European Animal Welfare Changes Could Affect US

New animal welfare standards under discussion in Europe could affect researchers throughout the world, including in the US. The new proposals would require significant changes in animal husbandry. Critics object to them because there is a lack of scientific data showing a need for these measures.

This issues will be discussed at IUPS 2005 in a symposium on "Transnational impacts of animal welfare regulations" sponsored by the APS Animal Care and Experimentation Committee. The symposium will take place on Sunday, April 3 from 3:15 to 5:15 pm in Room 29C of the San Diego Convention Center and will be chaired by ACE Committee Chair **Kevin Kregel**.

The Symposium's featured speaker will be **Anne-Dominique Degryse**, the Director of Animal Husbandry at the Pierre Fabre Research Center in France and Past President of European Society of Laboratory Animal Veterinarians. Degryse will discuss "New European Animal Welfare Standards: Potential Impact and Concerns."

The Council of Europe (COE) is developing revisions to the animal welfare standards that are recommended practices for its 45 member nations. The changes under consideration include increasing the minimum recommended cage size for a singly housed 21 kg dog to 8 sq. meters, or approximately 72 sq. feet. The *ILAR Guide for the Care and Use of Laboratory Animals* currently

requires a minimum cage size of 12 sq. feet for a singly housed 21 kg dog.

In addition to mandating larger cage sizes, the draft revisions would require laboratory animals to be housed in enriched environments that permit the expression of normal behaviors. Animals would have to be housed in compatible social groups, and enhanced mechanical systems may also be required. Some lab animal veterinarians in Europe and the US are concerned because some of these proposals are not based upon studies demonstrating that these proposed modifications will in fact promote animal welfare.

If eventually adopted, the changes could affect scientists in a variety of ways. First, however, the COE working groups must finalize the proposed changes and present them to the COE's 45 member nations. Even if the COE ratifies the changes, the proposals would be advisory rather than mandatory. However, the recommendations would then be brought to the 15 nation European Union. The EU is expected to adopt the proposals, at which point they would have to be incorporated into the laws of those countries.

New animal welfare standards in Europe will have the most immediate effect on those who conduct research there, particularly in industry. **David Brooks** of GlaxoSmithKline Pharmaceuticals will discuss International Animal Welfare Standards and the Pharmaceutical Industry. New standards will also have an impact on aca-

demical researchers in EU nations and on their collaborators in other nations.

Pontus Persson of Humboldt University's Johannes Mueller Institute of Physiology in Berlin will provide a view from the bench and discuss the future of international collaborations.

The changes could also affect researchers in the US and other nations who submit papers to journals published in countries where the revised standards are in effect. Just as the APS journals require that animal research protocols be carried out in accordance with the provision of the *ILAR Guide*, journals in other nations often have similar requirements. It is already the case that certain research that is acceptable to IACUCs in the US is rejected by journals in other countries because it violates their national animal welfare standards. The proposed European animal welfare requirements could exacerbate this problem by increasing the gap between European and American animal welfare requirements.

The final symposium speaker will be **J.R. Haywood** of Michigan State University, who will provide some perspective on the complexities of animal welfare regulation in the US and elsewhere.

APS members are encouraged to attend the ACE symposium on Transnational Impacts of Animal Welfare Regulation on Sunday, April 3, 2005 from 3:15-5:15 pm in Room 29C of the San Diego Convention Center. ❖

APS-sponsored AAAS Mass Media Fellowship

This 10-week summer 2005 fellowship allows graduate and postdoctoral students the chance to:

- Use their academic training in the sciences to research, write and report today's headlines.
- Improve public understanding of science while developing the ability to communicate science to general audiences.
- Observe and participate in the process by which events and ideas become news.
- Work with professional journalists in the newsroom of a newspaper, television or radio station, magazine or internet media organization.

Interested? If so, apply for the APS-sponsored AAAS Mass Media Science and Engineering Fellowship. Application Deadline: January 15, 2005.

Applicants for the APS-sponsored fellowship must be currently enrolled as a graduate or postdoctoral student of physiology or a related discipline. Fellowships for students in other scientific and engineering disciplines are available through AAAS.

Find out more information at <http://www.the-aps.org/awards/student.htm#AAAS> or by contacting Stacy Brooks (sbrooks@the-aps.org; 301-634-7253). ❖

APS Comments on the NIH Public Access Proposal

The APS supports the principle of public access to science but believes that the NIH plan is not the right approach. The APS submitted a detailed analysis of public policy shortcomings and legal defects of the proposal. The legal analysis incorporated into the APS comment was jointly commissioned by the APS and the American Association of Immunologists (AAI).

The APS has concluded that the NIH proposal will do little to enhance public access to biomedical research while causing disproportionate harm to not-for-profit societies that publish high-quality journals containing a significant amount of NIH-funded research. This cohort includes many publishers who already provide some form of free public access.

The APS recommends that instead of this proposal, the NIH should enhance the existing MedLine/PubMed web site so that it is possible to search the full text of articles on journals' own websites. These searches would yield links to finished articles on those websites rather than access to manuscripts. A number of publishers have already expressed interest in this approach, which would lead to the development of a comprehensive search engine that would do for biomedical research what search engines such as Google and Yahoo do for the web as a whole. This approach has a number of advantages to all parties. For NIH, this arrangement would make it possible to search the text of all biomedical research articles and not just the 10% that are based on NIH-funded research. Journals, and especially high-quality journals that publish a significant proportion of

NIH-funded research, would still be able to determine their own access policies based upon cost recovery requirements. Finally, and perhaps most importantly of all, instead of access to manuscripts, this would make it possible to locate the final copy-edited version of articles presented in context with links to related materials such as commentaries and corrections.

This policy section of the APS comment will address a series of questions about the NIH proposal. These include:

Should NIH operate a manuscript repository?

Should NIH mandate public access after 6 months?

Are the costs of the proposal warranted?

The legal analysis commissioned by APS and AAI addresses a variety of defects in the NIH proposal, which are summarized below:

NIH's plan would infringe on the copyright interests of (a) federal grantees who author copyrighted articles based upon NIH-sponsored research, and (b) publishers of professional journals that have accepted those articles for publication and to whom copyright interests have been conveyed. These copyright interests are well-established under federal law and NIH has no authority to alter them on its own. Consequently, NIH must, as a general matter, obtain permission from those authors who have retained a copyright interest *and* the publishers in order to distribute and/or display accepted manuscripts of the articles to the general public.

The plan is fatally flawed as it fails to recognize the need to obtain

copyright permission from authors and/or publishers to distribute or display manuscript copies to the public. Suggestions that such permission may be excused by resort to the "fair use" defense or NIH's "federal purpose" license in the manuscripts are without merit. In addition, as to grantees under the Small Business Innovation Research program, NIH has no authority even to seek such permission without approval of the U.S. Small Business Administration.

The plan threatens to undercut the Bayh-Dole Act by interfering with technology transfer. NIH has recognized in Congressional testimony that scientific publications are an important component of technology transfer for NIH-sponsored research, and weakening that technology transfer component would represent poor public policy. NIH's plan also undermines the principle of the Bayh-Dole Act that the private sector is the preferable vehicle to move federally-funded research results to the public and the marketplace.

Because NIH is subject to the Freedom of Information Act and intends to place the accepted manuscripts into an NIH database, manuscripts submitted to NIH likely constitute "printed publications" under U.S. patent laws. Consequently, the date such a draft manuscript is submitted to NIH would trigger the running of the one-year time period for filing a U.S. patent application covering research disclosed in the manuscript, and patent applications filed after that date in foreign countries that do not provide a grace period similar to US law will be time-barred. This is a change from current practice, which

relies on the date of journal publication, and risks significant adverse consequences for researchers and NIH.

The NIH plan constitutes a legislative rule-making under the Administrative Procedure Act. However, NIH lacks the authority to adopt this plan because it is without legislative rule-making power, and in any event cannot adopt a plan that is at variance with a controlling DHHS regulation. Even if NIH could undertake legislative rule-making, formal notice and a public comment opportunity are required. The current notice is legally inadequate for legislative rule-making because it fails to provide sufficient details of the plan or the data upon which NIH has relied to afford the public a meaningful comment opportunity.

Because the Regulatory Flexibility Act applies to NIH's plan, NIH cannot proceed unless it under-

takes the regulatory flexibility analyses required under the Act. Moreover, the Associations, as small entities under the Act, would be entitled to judicial review of NIH's compliance (or non-compliance) with the Act.

The Paperwork Reduction Act applies to NIH's plan. NIH is required by law to comply with that Act, and failing to do so, NIH cannot enforce any penalty on NIH grantees who decline to submit manuscripts as required by NIH's plan.

OMB Circular A-76 applies to NIH's plan. NIH cannot implement its plan unless the agency performs a cost-comparison study and determines that its plan to have NIH distribute NIH-sponsored research results using accepted manuscripts is less expensive for the federal government than the present system of scientific publishing.

Because NIH's plan would inter-

fere with constitutionally protected rights, NIH would need to satisfy analytical and reporting requirements to OMB as to potential obligations imposed by the Just Compensation Clause of the Fifth Amendment. Additionally, while DHHS could, conceivably, change its grant regulation on grantee copyright ownership to authorize NIH's plan, such a change would require OMB approval for a deviation from OMB's uniform grant rules.

The APS therefore recommends that NIH withdraw this proposal and work cooperatively with publishers to determine how best to promote reasonable and sustainable policies to improve public access to science.

A copy of the APS comments is available as a pdf file at <http://www.the-aps.org/news/aps.pdf>. ❖

Important IUPS Deadlines

February 4, 2005 Deadline for Early Registration. You can continue to register on-line after this date, however your registration will be subject to the full fee.

February 21, 2005 Deadline for Housing Reservations

March 8, 2005 Deadline to request a refund of advance registration. A \$35 non-refundable cancellation fee will be assessed.



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

Gerald DiBona
Univ. of Iowa

*"The Wisdom of the Body:
Neural Control of the
Kidney"*

SATURDAY, APRIL 2, 5:45 PM



HENRY PICKERING BOWDITCH
AWARD LECTURE

Ormond MacDougald
Univ. of Michigan

*"Role of Wnt Signaling in
Development of Adipose
Tissues and Bone"*

SUNDAY, APRIL 3, 5:45 PM



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

Amira Klip
Hospital for Sick Children,
Toronto, Ontario, Canada

*"Regulation of Glucose
Transporters in Muscle
Cells: Epurr si Muove"*

FRIDAY, APRIL 1, 10:30 AM



CARL W. GOTTSCHALK
DISTINGUISHED LECTURESHIP
OF THE RENAL SECTION

Soren Nielsen
Univ. of Aarhus, Denmark

*"Aquaporin Water
Channels in Kidney:
Physiology and
Pathophysiology"*

FRIDAY, APRIL 1, 2:00 PM



HORACE W. DAVENPORT
DISTINGUISHED LECTURESHIP
OF THE GASTROINTESTINAL
SECTION

Ann Hubbard
Johns Hopkins Univ., MD

*"The Ins and Outs of
Membrane Traffic in
Polarized Epithelial Cells"*

FRIDAY, APRIL 1, 3:15 PM

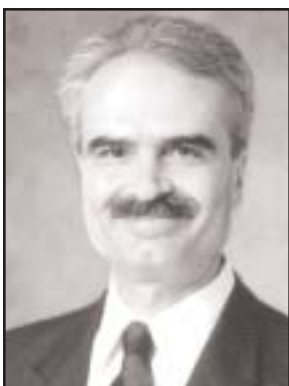


ERNEST H. STARLING
DISTINGUISHED LECTURESHIP
OF THE WATER AND
ELECTROLYTE HOMEOSTASIS
SECTION

Giuseppe Bianchi
Univ. Vita Salute San
Raffaele, Milan, Italy

*"The Genetic Control of
Renal Na Handling in
Primary Hypertension"*

SATURDAY, APRIL 2, 10:30 AM



ROBERT M. BERNE
DISTINGUISHED LECTURESHIP
OF THE CARDIOVASCULAR
SECTION

Roberto Bolli
Univ. of Louisville, KY

*"Preconditioning:
A Paradigm Shift in the
Biology of Myocardial
Ischemia"*

SATURDAY, APRIL 2, 2:00 PM



CLAUDE BERNARD
DISTINGUISHED LECTURESHIP
OF THE TEACHING OF
PHYSIOLOGY SECTION

Ann Sefton
Univ. of Sydney, Australia

*"Charting a Global Future
for Education in Physiology"*

SATURDAY, APRIL 2, 3:15 PM



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

Julian Paton
Univ. of Bristol,
United Kingdom

*"Genes and Proteins in the
Blood Brain Barrier Affecting
Arterial Pressure Regulation:
Implications for the Etiology of
Hypertension"*

SUNDAY, APRIL 3, 10:30 AM



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

Erik A. Richter
Univ. of Copenhagen,
Denmark

*"AMPK and Other Exercise-
Induced Signaling in Skeletal
Muscle: Relationship to
Metabolism and Gene
Expression"*

SUNDAY, APRIL 3, 2:00 PM



JOSEPH ERLANGER
DISTINGUISHED LECTURESHIP
OF THE CENTRAL NERVOUS
SYSTEM SECTION

Sten Grillner
Karolinska Institute,
Stockholm, Sweden

*"The Selection and Intrinsic
Function of Motor Programs:
From Microcircuits to
Integrative Function"*

SUNDAY, APRIL 3, 3:15 PM



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

Gabriel Haddad
Albert Einstein College of
Medicine, New York

*"Tolerance of Low O₂:
Lessons From Invertebrate
Genetic Models"*

MONDAY, APRIL 4, 8:00 AM



AUGUST KROGH
DISTINGUISHED LECTURESHIP
OF THE COMPARATIVE
PHYSIOLOGY SECTION

Roy Weber
Univ. of Aarhus, Denmark

*"The Amazing World of
(Hemo-)Globins: Models in
Physiological Adaptation"*

MONDAY APRIL 4, 10:30 AM



HUGH DAVSON
DISTINGUISHED LECTURESHIP
OF THE CELL AND MOLECULAR
PHYSIOLOGY SECTION

Randy Schekman
Univ. of California, Berkeley

*"Mechanism and
Regulation of Cargo Protein
Sorting in the Secretory
Pathway"*

MONDAY, APRIL 4, 2:00 PM



Walter C. Randall Lecturer in Biomedical Ethics

Robert Williamson,
Murdoch Children's Research Institute
Tuesday, April 5, 2:00-3:00 PM

*"Ethics, the Human Genome and Physiology:
Designer Babies and Human Clones"*

The full IUPS Scientific Program with speakers and titles may be viewed online at <http://www.iups2005.org>.

Thursday, March 31, 2005—6:00 PM

Lecture:

The Wallace O. Fenn Lecture

Speaker: **Peter Agre**

Friday, April 1, 2005—8:00 AM

Refresher Course:

Integrating Genomics Into Physiology Courses:

A New Paradigm or Just More Information?

Education Track

Chaired: **Daniel E. Lemons and Anne Kwitek**

Symposium:

Angiogenesis

Vascular Physiology Track

Chaired: **Brant Weinstein**

Symposium:

Cardiac Electrophysiology and Arrhythmia Mechanisms

Cardiac Track

Chaired: **Denis Noble**

Symposium:

Functional Genomics of Macromolecular Damage

Responses and Environmental Stress Adaptation

Ecophysiology for the 21st Century Track

Chaired: **George Somero**

Symposium:

The Making of the Vertebrate Lung

Tissue Dynamics in the Lung Track

Chaired: **Jeffrey A. Whitsett**

Symposium:

Molecular Bases of Energy Balance and Fuel Partitioning

Feeding, Fuel and Fat: Energy Metabolism Track

Chaired: **Jeffrey M. Friedman**

Symposium:

Novel Mechanisms of Transporter Regulation

Epithelia Track

Chaired: **Rene Bindels and Irene Schulz**

Symposium:

Skeletal Muscle Plasticity

Muscle-Exercise Track

Chaired: **John Holloszy**

Featured Topic:

Genetic Basis of Cardiopulmonary Disorders

Genomics Track

Chaired: **Scott Weiss**

Featured Topic:

HIF-1 and Molecular Regulation of Oxygen Homeostasis

Chaired: **Gregg L. Semenza**

Friday, April 1, 2005—10:30 AM

Lecture:

Solomon A. Berson Distinguished Lectureship of the APS

Endocrinology & Metabolism Section

Speaker: **Amira Klip**

Symposium:

Cardio-Respiratory Physiology of Diving: Extreme

Physiology at Depth

Ecophysiology for the 21st Century Track (Sponsored by:

The Society for Integrative and Comparative Biology)

Chaired: **Patrick J. Butler**

Symposium:

Central Role of Ion Channels in the Regulation of Vascular Tone

Vascular Physiology Track

Chaired: **Mark T. Nelson**

Symposium:

Epithelial Polarity: Development to Disease

Epithelia Track

Chaired: **Catherine Fuller and Michael J. Caplan**

Symposium:

Excitation-Contraction Coupling

Cardiac Track

Chaired: **Andrew Marks**

Symposium:

Life and Death: Metabolic Rate and Lifespan

Thermoregulation and Energetics Track

Chaired: **Kim Hammond**

Symposium:

Molecules and Genes: Brainstem Development Underlying Breathing

Regulatory Brain Track

Chaired: **Martyn D. Goulding**

Symposium:

Signaling Pathways in Gut Mechanosensitivity

Chaired: **Fievos Christofi and Michael Schnemann**

Featured Topic:

Reactive Oxygen Species in the Vasculature

Chaired: **Michael Wolin and Paul Vanhoutte**

Friday, April 1, 2005—2:00 PM

Lecture:

Carl W. Gottschalk Distinguished Lectureship of the APS

Renal Section

Speaker: **Soren Nielsen**

Lecture:

The Microcirculatory Society Landis Award Lecture
Speaker: **Virginia Huxley**

Friday, April 1, 2005—3:15 PM

Lecture:

Horace W. Davenport Distinguished Lectureship of the APS Gastrointestinal & Liver Physiology Section
Speaker: **Ann Hubbard**

Symposium:

Cell Biology of Sodium Transport in Kidney
Renal Control of Blood Pressure Track
Chaired: **Francois Verrey and Rebecca Hughey**

Symposium:

The Microcirculatory Society President's Symposium: Vascular Regulatory Abnormalities in Obesity: Consequences of the Epidemic
Chaired: **Glenn H. Bohlen**

Symposium:

Scaling of Metabolic Rate with Body Size: How and Why?
Thermoregulation and Energetics Track
Chaired: **Ewald Weibel and Anthony J. Hulbert**

Symposium:

Spring Molecules
Muscle-Exercise Track
Chaired: **Henk Granzier**

Symposium:

Stem Cells in the Developing and Adult Brain
Supported by: Elsevier, Inc.
Chaired: **Pasko Rakic**

Featured Topic:

Acid-Base Transporters
Chaired: **Michael Romero**

Featured Topic:

The Phylogeny of Dual Respiratory Rhythm Generating Networks in Vertebrates
Regulatory Brain Track
Chaired: **William K. Milsom**

Featured Topic:

Role of Reactive Oxygen and Nitrogen Species in Lung Injury and Diseases
Chaired: **Bruce R. Pitt and Brooke T. Mossman**

Friday, April 1, 2005—5:45 PM

Lecture:

IUPS President's Lecture
Speaker: **Allen W. Cowley**

Saturday, April 2, 2005—8:00 AM

Symposium:

Epithelial Cells and their Neighbors
Epithelia Track
Chaired: **Hannah V. Carey and Helen E. Raybould**

Symposium:

Force Generation
Muscle-Exercise Track
Chaired: **Jim Spudich**

Symposium:

Genomics of Transport and Sensory Functions
Genomics Track
Chaired: **Kevin Strange**

Symposium:

Oxygen Sensing and Hypoxia: Development, Adaptation and Disease
Chaired: **Nanduri Prabhakar**

Symposium:

Renal NaCl Reabsorption: Molecular Insights into Human Blood Pressure Control
Renal Control of Blood Pressure Track
Chaired: **Paul A. Welling**

Featured Topic:

Endothelial Nitric Oxide and Cardiovascular Disease
Chaired: **David Lefer and Joseph Loscalzo**

Featured Topic:

Impact of Gravity on Physiological Systems
Chaired: **Robert W. Phillips**

Featured Topic:

Molecular Mechanisms of Fuel Sensing
Feeding, Fuel and Fat: Energy Metabolism Track
Chaired: **Luciano Rossetti and David Grahame Hardie**

Featured Topic:

New Aspects of Endothelial-Cell Matrix Interactions: The Glycocalyx
Vascular Physiology Track
Chaired: **Herbert H. Lipowsky and Fitz-Roy Curry**

Featured Topic:

Respiratory Long-Term Facilitation: Mechanisms and Implications
Regulatory Brain Track
Chaired: **Gordon S. Mitchell**

Featured Topic:

The Role of Student Practical Laboratories in Physiology Education Track
Chaired: **Dee Silverthorn and Maria Jose Alves da Rocha**

Saturday, April 2, 2005—10:30 AM

Lecture:

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

Renal Control of Blood Pressure Track

Supported by an unrestricted educational grant from:

GlaxoSmithKline

Speaker: **Giuseppi Bianchi**

Symposium:

Cellular and Molecular Mechanisms of Synaptic Plasticity

Chaired: **Roger A. Nicoll**

Symposium:

*Computational Biology of Cardiac Arrhythmias: From Ion
Channel to Therapy*

Chaired: **Andrew McCulloch and Wayne Giles**

Sponsored by: The Biomedical Engineering Society

Symposium:

*Effective Uses of Information Technologies in Physiology
Education*

Education Track

Chaired: **Simon Carlile**

Symposium:

*Emerging Modes of Ca^{2+} Signaling in the Regulation of
Smooth Muscle Contractile Proteins*

Vascular Physiology Track

Chaired: **Avril V. Somlyo**

Symposium:

Sex and Gender Differences in Pain and Analgesia

Chaired: **Karen J. Berkley**

Symposium:

*Structure-Function of Mechano-Gated Ion Channels
Mechano-/Chemotransduction Track*

Chaired: **Masahiro Sokabe and Frederick Sachs**

Featured Topic:

*Adipose Tissue: Fat Depot, Fuel Stat, and Endocrine
Organ*

Feeding, Fuel and Fat: Energy Metabolism Track

Chaired: **Susan K. Fried**

Featured Topic:

*Molecules Underlying Diseases of the Central and Enteric
Nervous Systems*

Regulatory Brain Track

Chaired: **George Richerson**

Featured Topic:

Transport: PKD, Cilium

Chaired: **Stefan Somlo**

Saturday, April 2, 2005—2:00 PM

Lecture:

2nd Ernst Knobil Memorial Lecture

Speaker: **Jan-Ake Gustafsson**

Lecture:

*Robert M. Berne Distinguished Lectureship of the APS
Cardiovascular Section*

Speaker: **Roberto Bolli**

Saturday, April 2, 2005—3:15 PM

Lecture:

*Claude Bernard Distinguished Lectureship of the APS
Teaching of Physiology Section*

Speaker: **Ann J. Sefton**

Symposium:

Comparative Genomics of the Lung

Tissue Dynamics in the Lung Track

Chaired: **John S. Torday**

Symposium:

*Discovery of Genes for Polycystic Kidney Disease
Genomics Track*

Chaired: **Peter Harris**

Symposium:

*Gene Regulation for Survival at Low Temperatures
Thermoregulation and Energetics Track*

Chaired: **Jeremy H.A. Fields**

Symposium:

*Molecular Mechanisms Linking Sodium Retention to
Hypertension*

Chaired: **Mordecai P. Blaustein**

Sponsored by: The American Federation for Medical
Research

Symposium:

Nuclear Receptor Co-Regulators

Chaired: **Roland Schule**

Featured Topic:

*Locomotor Pattern Generators: Developmental, Molecular
and Cellular Organization in Vertebrates*

Neural Control of Locomotion: From Genes to Behavior
Track

Chaired: **Sten Grillner**

Featured Topic:

Regulation of Coronary and Skeletal Muscle Circulation

Vascular Physiology Track

Chaired: **Jos A.E. Spaan**

Featured Topic:

Techniques

Calcium Signaling Track

Chaired: **Tobias Meyer**

Featured Topic:

Urea Transporters in the Post Genomic Era

Chaired: **Craig P. Smith and Jeff M. Sands**

Saturday, April 2, 2005—5:45 PM**Lecture:**

Physiology in Perspective—The Walter B. Cannon Memorial Award Lecture

Speaker: **Gerald F. DiBona**

Supported by: The Grass Foundation

Sunday, April 3, 2005—8:00 AM**Symposium:**

Comparative Genomics of Blood Pressure Control: Genetic Maps in Humans, Rats and Mice

Renal Control of Blood Pressure Track

Chaired: **Pierre Corvol and Anne Kwitek**

Symposium:

Lipid Rafts—Floating from Bench to Bedside

Chaired: **Thomas L. Roszman and Jens Goebel**

Sponsored by: The American Federation for Medical Research

Symposium:

Neural Control of Energy Balance

Feeding, Fuel and Fat: Energy Metabolism Track

Chaired: **R.J. Seeley**

Symposium:

New Advances in Understanding Control of the Cerebral Circulation

Chaired: **Donald D. Heistad and David R. Harder**

Symposium:

Proteins

Calcium Signaling Track

Chaired: **Andras Spät**

Featured Topic:

Amino Acid Transporters

Chaired: **Yoshikatsu Kanai**

Featured Topic:

Cardiac Metabolism and Energetics

Cardiac Track

Chaired: **Joanne Ingwall**

Featured Topic:

Regulatory Mechanisms of Mechanosensory Cells

Mechano-/Chemotransduction Track

Chaired: **Akimichi Kaneko**

Sunday, April 3, 2005—10:30 AM**Lecture:**

Carl Ludwig Distinguished Lectureship of the APS Neural Control & Autonomic Regulation Section

Genes and proteins in the blood brain barrier affecting arterial pressure regulation: implications for the etiology of hypertension

Speaker: **Julian Paton**

Symposium:

Calcium Channels, Tyrosine Kinases and Smooth Muscle Function

Chaired: **Hamid I. Akbarali and Michael J. Davis**

Symposium:

Gravity and Evolution: From Cells to Snakes

Chaired: **Alan R. Hargens and Peter Norsk**

Symposium:

Phylogeny and Ontogeny of the Renin-Angiotensin System

Chaired: **Hiroko Nishimura and Kenneth W. Gross**

Featured Topic:

Cardiac Mechanics

Cardiac Track

Chaired: **Andrew McCulloch**

Featured Topic:

Gender Effects on Arterial Pressure Regulation

Renal Control of Blood Pressure Track

Chaired: **Chris Baylis**

Featured Topic:

Mechanisms of Metabolic Depression: Comparative Aspects

Chaired: **Gerhard Heldmaier**

Featured Topic:

The Molecular Basis of Epithelial Disease

Epithelia Track

Chaired: **David N. Sheppard**

Featured Topic:

Pro-inflammatory Signaling in Lung Endothelial Cells

Tissue Dynamics in the Lung Track

Chaired: **Jahar Bhattacharya**

Sunday, April 3, 2005—2:00 PM**Lecture:**

Edward F. Adolph Distinguished Lectureship of the APS Environmental & Exercise Physiology Section

Speaker: **Erik A. Richter**

AMPK and other exercise-induced signalling in skeletal muscle: relationship to metabolism and gene expression

Sunday, April 3, 2005—3:15 PM

Lecture:

*Joseph Erlanger Distinguished Lectureship of the APS
Central Nervous System Section*
The Selection and Intrinsic Function of Motor Programs:
From Microcircuits to Integrative Function
Speaker: **Sten Grillner**

Symposium:

Trans-national Impacts of Animal Welfare Regulations
Chaired: **Kevin Kregel and Pontus Persson**

Symposium:

Molecular Basis of Disease
Calcium Signaling Track
Chaired: **Cecilia Hidalgo**

Symposium:

Rescue Mechanisms from Hypoxia
Ecophysiology for the 21st Century Track
Chaired: **Peter Lutz**

Symposium:

Stem Cells and the Modification of Vascular Functions
Vascular Physiology Track
Supported by: Elsevier, Inc.
Chaired: **Keith March**

Featured Topic:

*Complex Pathway of Function and Disease Deduced from
the Whole Genome Perspective*
Genomics Track
Chaired: TBA

Featured Topic:

Genetic Models of Hypertension
Renal Control of Blood Pressure Track
Chaired: **Curt Sigmund**

Featured Topic:

Gut Interactions with Pancreas and Liver
Chaired: **Patricia L. Brubaker and David A. D'Alessio**

Featured Topic:

*Pyrogen-Sensing and Suppressing Pathways Mediating
the Febrile Response*
Thermoregulation and Energetics Track
Chaired: **Clark M. Blatteis**

Featured Topic:

*Receptors and Signaling Pathways in Lung Injury and
Repair*
Tissue Dynamics in the Lung Track
Chaired: **Courtney Broaddus**

Sunday, April 3, 2005—5:45 PM

Lecture:

Henry Pickering Bowditch Award Lecture
Speaker: **Ormond MacDougald**

Symposium:

International Collaboration: Science Knows no Boundaries
Chaired: **Melinda R. Dwinell and Francisco H. Andrade**

Monday, April 4, 2005—8:00 AM

Lecture:

*Julius H. Comroe, Jr. Distinguished Lectureship of the
APS Respiration Section*
Speaker: **Gabby Haddad**

Symposium:

Cardiac Remodeling
Cardiac Track
Chaired: **Christine Seidman**

Symposium:

Diagnosis and Treatment Utilizing Natriuretic Peptides
Chaired: **David L. Vesely**
Sponsored by: The American Federation for Medical
Research

Symposium:

Genetic Determinants of Obesity and Metabolic Disease
Feeding, Fuel and Fat: Energy Metabolism Track
Chaired: **Claude Bouchard**

Symposium:

Integrative Aspects: Ca²⁺ Signaling in the Nervous System
Calcium Signaling Track
Chaired: **Alex Verkhatsky**

Symposium:

*PDZ Domain Scaffolding Proteins and their Functions in
Polarized Cells*
Epithelia Track
Chaired: **Mark Donowitz and Yoshihisa Kurachi**
Sponsored by: *The Journal of Physiology*

Featured Topic:

Atherosclerosis: The New Inflammatory Disease?
Vascular Physiology Track
Chaired: **Gary K. Owens**

Featured Topic:

*The Many Faces of Problem-Based Learning: A Framework
for Integrative Physiology Education*
Education Track
Chaired: **Penny Hansen**

Featured Topic:

*Mosso and Muscular Fatigue: 116 Years after the First
Congress of Physiologists*
Chaired: **Charles M. Tipton and Thomas Nosek**

Monday, April 4, 2005—10:30 AM

Lecture:

August Krogh Distinguished Lectureship of the APS Comparative & Evolutionary Physiology Section and the Scandinavian Physiological Society
Speaker: **Roy E. Weber**

Tutorial:

Computational and Bioinformatic Applications to Systems Biology
Genomics Track
Chaired: **Daniel Beard**

Symposium:

Body Weight Regulation throughout the Life Cycle
Feeding, Fuel and Fat: Energy Metabolism Track
Chaired: **I. Caroline McMillen**

Symposium:

Modulation of the Locomotor Pattern Generators by Neurotransmitters and by Sensory Afferents
Neural Control of Locomotion: From Genes to Behavior Track
Chaired: **Keir G. Pearson**

Symposium:

Neural Control of the Circulation in Health and Disease
Regulatory Brain Track
Chaired: **Patrice Guyenet**

Symposium:

Phospholipid Oxidative Signaling in Regulation of Apoptosis and Phagocytosis
Chaired: **Valerian E. Kagan**

Controversy:

The Mechanism of Action of the Ca²⁺ Releasing Messenger NAADP
Calcium Signaling Track
Chaired: **Luigia Santella**

Controversy:

Role of Kidney versus Brain in Blood Pressure Control and Hypertension
Renal Control of Blood Pressure Track
Chaired: **Gregory D. Fink and Thomas Lohmeier**

Featured Topic:

Muscle Dystrophies of the Dystrophin Complex
Muscle-Exercise Track
Chaired: **H. Lee Sweeney**

Featured Topic:

Sensing Cardiovascular Homeostasis: Novel Molecules as Mechano- and Chemosensors
Track
Chaired: **Donna H. Wang and Donald L. Gill**

Featured Topic:

Sex/Gender, Hormones and Cardiovascular Function
Supported by: National Center for Gender Physiology
Chaired: **Sue Duckles and Valerie Schini-Kerth**

Monday, April 4, 2005—2:00 PM

Lecture:

Hugh Davson Distinguished Lectureship of the APS Cell & Molecular Physiology Section
Speaker: **Randy Schekman**

Monday, April 4, 2005—3:15 PM

Symposium:

Atherosclerosis: Immune and Inflammatory Aspects
Chaired: **Allison B. Reiss and Steven Carsons**
Sponsored by: The American Federation for Medical Research

Symposium:

Biologging: Monitoring the Ecophysiology of Animals in the Marine Environment
Ecophysiology for the 21st Century Track
Chaired: **Gerald L. Kooyman**

Symposium:

Developing and Implementing a Communications Strategy: the Basics for the Basic Scientist
Chaired: **Hannah Carey**

Symposium:

Imprinting, Development and the Programming of Adult Health
Genomics Track
Chaired: **Kent Thornburg**

Symposium:

Making Science News: A Journalists Roundtable
Chaired: **Andrea Gwosdow**

Symposium:

Metabolic Syndrome: From Clinical Insights into New Therapies
Feeding, Fuel and Fat: Energy Metabolism Track
Chaired: **Christine Schnackenberg**
Sponsored by: APS Liaison with Industry Committee

Symposium:

Physiological Proteomics
Chaired: **Charles A. Blake and Steven R. Goodman**
Sponsored by: The Society for Experimental Biology and Medicine

Featured Topic:

Current Ideas in Pulmonary Ventilation and Blood Flow
Chaired: **I. Mark Olfert and Kim Prisk**

Featured Topic:

IUPS Grand Rounds on Hypertension
Renal Control of Blood Pressure Track
Chaired: **John Hall**

Featured Topic:

Muscle as an Endocrine Organ
Muscle-Exercise Track
Chaired: **Ronald Terjung**

Tuesday, April 5, 2005—8:00 AM

Symposium:

Coordinating Interactions between Endothelium and Smooth Muscle
Vascular Physiology Track
Chaired: **Ruddi Busse**

Symposium:

Initiation and Adaptation of the Locomotor Pattern
Neural Control of Locomotion: From Genes to Behavior Track
Chaired: **Tatiana Deliagina**

Symposium:

Integrative Neuronal Mechanisms for Thermoregulation
Thermoregulation and Energetics Track
Chaired: **Kazuyuji Kanosue and Ruediger Gerstberger**

Symposium:

Vascular Inflammation: The Role of Inflammatory Cell Extravasation in Tissue Inflammation and Injury
Vascular Physiology Track
Chaired: **Joel Linden**

Symposium:

Old Receptor: New Functions
Chaired: **Jacques Samarut**

Featured Topic:

Mechanical Ventilation and Lung Injury
Chaired: **Deborah Quinn**

Featured Topic:

Regenerative Capacity of the Heart
Cardiac Track
Chaired: **Nadia Rosenthal**

Featured Topic:

The Role of the Choroid Plexus
Chaired: **Peter Brown**

Tuesday, April 5, 2005—9:00 AM

Lecture:

Robert Pitts Lecture
Speaker: **Jurgen Schnermann**

Tuesday, April 5, 2005—10:30 AM

Symposium:

Cellular and Molecular Aspects of Lung Parenchymal and Airway Remodeling
Tissue Dynamics in the Lung Track
Chaired: **Rubin Tudor**

Symposium:

Genomics of Circadian Clocks
Genomics Track
Chaired: **Julian Dow**

Symposium:

How do Emotions and Motivations Interact with Autonomic Functions?
Chaired: **Ruud M. Buijs**

Symposium:

Inflammatory Aspects of Hypertension: Insights from the Microcirculation
Chaired: **Geert W. Schmid-Schonbein**

Symposium:

Neural Regulation of Hydroelectrolytic Homeostasis
Chaired: **Jose Antunes Rodrigues and Maria Jose Alves da Rocha**
Sponsored by: The Association of Latin American Physiological Societies

Point/Counterpoint:

Intracellular Energy Fluxes and Dynamics: Dual Roles for Equilibria and Compartmentation in Skeletal and Cardiac Myocytes
Muscle Track/Muscle-Exercise Track
Chaired: **Martin Kushmerick**

Featured Topic:

Long Term Plasticity and Spinal Cord Injury
Neural Control of Locomotion: From Genes to Behavior Track
Chaired: **Serge Rossignol**

Featured Topic:

Overview: From Organelles to Organ
Calcium Signaling Track
Chaired: **Irene Schulz**

Tuesday, April 5, 2005—2:00 PM

Lecture:

Walter C. Randall Lecture in Biomedical Ethics

Supported by: Taylor University

Speaker: **Robert Wiliamson**

Featured Topic:

The Nature of Intestinal Adaptations: Cellular Diversity and Versatility

Chaired: **Ronaldo P. Ferraris**

Tuesday, April 5, 2005—3:15 PM

Special Session:

Panel Discussion on Ethics and Physiology in the Era of the Human Genome

Chaired: **Ewald Weibel**

Symposium:

Genetic and Developmental Insights into Pulmonary Vascular Pathobiology

Tissue Dynamics in the Lung Track

Chaired: **Marlene Rabinovitch**

Symposium:

Molecular Mechanisms of Thermosensation

Mechano-/Chemotransduction Track

Chaired: **Ardem Patapoutian**

Symposium:

Research in Physiology Education from the Classroom to the Teaching Community

Education Track

Chaired: **Harold Modell**

Symposium:

TRP Channels: Physiological Genomics and Proteomics

Chaired: **Stewart O. Sage and Bernd Nilius**

Supported by: *The Journal of Physiology*

Featured Topic:

Epithelial Genomics, Proteomics and Genetic Models

Epithelia Track

Chaired: **Mark A. Knepper and J.E. Melvin**

Featured Topic:

Molecular Physiology of Diving

Ecophysiology for the 21st Century Track

Chaired: **Terrie M. Williams**

Postdoctoral Positions

Postdoctoral Fellow: A postdoctoral fellowship is available in the Pediatric Cardiology Research Laboratories at the Children's Hospital of Philadelphia, Director, Dr. Robert J. Levy. A position is available in the field of protein cross-linking and cardiovascular biomaterials. Research skills needed include expertise in protein chemistry, cell biology, molecular biology, and animal model systems. Candidates should have either a PhD and/or MD, and provide the names and contact information for three references. The postdoctoral fellow (post-doc) will have a terminal degree PhD, MD, DVM, etc. and will, under the direction/guidance of a mentor (principal investigator), assume responsibility for a specific, on-going research project. The postdoctoral experience will serve to extend, refine, and enhance skills necessary for professional and career development, and will enable the individual to broaden his/her scientific background by acquiring new research capabilities. It is expected that this individual will conduct independent scholarly research, and will contribute directly to the overall research goals of the project and the research group. Fellows will be expected to participate in project planning, recording and interpretation/evaluation of data, and communication of results. Postdoctoral fellows will also be expected to acquire technical, lab management, and manuscript/grant writing skills; and participate in seminars, lectures, poster sessions and presentations at national meetings. Postdoctoral fellows also may be required to supervise junior lab members, develop new methods and protocols for research, and assist with the development of other research projects in the lab. Please apply online (<http://www.chop.edu/careers>) referencing requisition number 04-3384. [EOE]

Postdoctoral Position in Bioengineering: A postdoctoral position is available in the cardiovascular physiology and cardiac mechanics laboratories at the University of

California, San Diego. The work will involve mechanotransduction mechanisms in myocytes using cell and molecular biology techniques. The laboratories employ a multidisciplinary approach that includes cell mechanics, biomechanical engineering, physiology and imaging techniques. Applicants should have a PhD and/or MD and experience in cell and/or molecular biology. The position is on a NIH training grant; thus, the candidate must be either a US citizen or permanent resident. For consideration, forward a CV and names of three references to: Maria Pacheco at mpacheco@ucsd.edu.

Postdoctoral Position: Novartis Institutes for Biomedical Research, the research division of Novartis Pharmaceuticals Corporation, has established a major initiative to discover novel therapeutics for heart failure. To this end, we are recruiting a postdoctoral scientist to profile drug candidates and conduct mechanistic studies in large animal models of heart failure. This represents an exciting opportunity for a recent or anticipated PhD graduate or a current postdoc who would like to gain pharmaceutical industrial experience. The ideal candidate will have experience in large animal models of heart failure and non-invasive (echocardiographic) and invasive assessment of hemodynamic/cardiac function, knowledge of cardiovascular pharmacology and cardiac signaling pathways, and be highly self-motivated, possess strong written and oral communication skills, and be able to work productively in a cooperative team environment. This position will be located in East Hanover, New Jersey in our Cardiovascular Diseases Pharmacology group. We offer a competitive salary, and a comprehensive benefits package, including a generous 401k match. For proper consideration please submit your CV and/or resume to job requisition 25427 at <http://www.nibr.novartis.com>. Novartis is committed to embracing and leveraging diverse backgrounds, cultures, and talents to achieve competitive advantage. [EEO M/F/D/V]

Postdoctoral Position: The Department of Physiology and Biophysics, Exercise Science-Muscle Plasticity, University of California, Irvine, CA, has a postdoctoral position available in the Multidisciplinary Exercise Science program. This program consists of three different core programs: 1) Molecular Physiology core; 2) Systems Physiology core; and 3) the Clinical Applications core. The overall goal of this training program is to develop scientists with a strong integrative approach (molecular-to-systems physiology) in the field of exercise science. Additionally, each candidate will be provided with a rich clinical exposure to strengthen the integrative nature of the program. Applicants are sought with PhD and/or MD degrees. Salary commensurate with qualifications and experience. Candidates interested in skeletal muscle plasticity will work with Drs. Baldwin, Caiozzo, and Adams. Candidates should send a curriculum vitae and the names of three references (please do not solicit letters) to: Dr. Kenneth M. Baldwin, Medical Science I, D-352, College of Medicine, University of California, Irvine, Irvine, CA 92697-4560; Email: kmbaldwi@uci.edu. All qualified candidates, including women and minority candidates, are encouraged to apply. [EOE]

Postdoctoral Position: The VA Medical Center in Portland, Oregon has a Postdoctoral position available in the pathophysiology of myocardial ischemia-reperfusion. Immediate opening for VA Merit Review funded position to examine the role of gender in opioid-induced protection against myocardial ischemic injury, using a multidisciplinary approach combining systems physiology and cellular techniques (cardiomyocyte isolation & cell culture, in vivo myocardial ischemia-reperfusion, fluorescence microscopy, biochemical assays, analysis of gene/protein expression, and RNAi). Candidates must hold a PhD in a basic science or be an MD with extensive laboratory experience. Applicants must have an interest in cardiovascular diseases, excellent communication skills in English, and a publication

record in peer-reviewed English-language journals. Candidates should have experience with small animal surgery. A strong background in cellular and molecular biology is an asset. Successful candidates will demonstrate a dedicated commitment to a research career, and be self-motivated and independent. Salary will be commensurate with experience and will follow NIH guidelines. Individuals are invited to send a current CV, a letter describing research accomplishments and career goals, and the names and contact information of three references to Donna.Vanwinkle@med.va.gov or Donna Van Winkle, PhD, VA Medical Center, Anesthesiology Service P3ANES, 3710 SW US Veterans Hospital Road, Portland, OR, 97239-2999 (electronic applications preferred). The Portland VA Medical Center is located adjacent to the Oregon Health & Science University campus and the Vollum Institute. The Van Winkle laboratory is affiliated with the Portland Heart Research Center (<http://www.ohsu.edu/heart/>). Information regarding the Portland metro area can be obtained at <http://www.travelportland.com> or at <http://portland.citysearch.com/>. [AA/EOE]

Postdoctoral Research Position: Position available in the Department of Physiology, Louisiana State University Health Sciences Center in New Orleans to study distinct functions and regulation of angiotensin receptors in the kidney microvasculature. Interaction of vasoconstrictor and vasodilator hormones are assessed in renal vessels studied in an intact tubular environment using the mouse *in vitro* blood perfused juxtamedullary nephron preparation using transgenic null mouse models. Molecular biology approaches are utilized for localization and quantification of receptor expression in the kidney. Experience with small animal surgery and molecular biology is desired. Applicants must 1) demonstrate a dedicated commitment to a research career, be highly motivated and independent, 2) hold a PhD in a basic science or a MD with extensive laboratory experience, 3) have less

than five years of postdoctoral experience, and 4) possess superior communication skills in English and a publication record in English-speaking journals. Salary commensurate with qualifications and experience. The position is available for a period of three years. Please submit a cover letter with a brief description of research experience and career goals, curriculum vitae including bibliography, and the names and contact information of three references via email to LM Harrison-Bernard, PhD, Associate Professor, Department of Physiology, Louisiana State University Health Sciences Center, New Orleans, LA 70112-1393; Email: lharris@lsuhsc.edu. [AA/EOE.]

Postdoctoral Position, Cardiac Electrophysiology: The University of Texas Southwestern Medical Center at Dallas has an opening for a postdoctoral fellow to study mechanisms of electrophysiological remodeling in heart disease. Candidates should have experience in voltage- and patch-clamp methods, ideally in the heart. In addition, qualified applicants should possess a doctoral degree and prior research training with an appropriate publication record. Easy command of the English language and facility with scientific writing are important. Competitive salaries are available and women and minorities are encouraged to apply. Send cover letter, CV, and the names of three references to Joseph Hill, MD, PhD, 5323 Harry Hines Blvd., Dallas, TX; Email: joseph.hill@utsouthwestern.edu. [AA/EOE]

Postdoctoral Position-Cardiac Molecular Biology: Project Title: Molecular Mechanisms of Cardiac Circadian Rhythm. One fully funded postdoctoral position is immediately available to study molecular mechanisms of cardiac circadian rhythm. Utilizing molecular biological methods, we are deciphering mechanisms of diurnal rhythm generation in *in vitro* and *in vivo* methods. Particular focus is being paid to mechanisms whereby exogenous stimuli "reset" these rhythms. Basic Qualification: PhD, MD, or equivalent. Desirable

Qualifications: The ideal candidate should have experience in molecular biology, biochemistry, cell signaling and/or molecular cardiology. Easy command of the English language and facility with scientific writing are important. Contact: Joseph Hill, MD, Ph.D., UT Southwestern Medical Center, NB11.200, 5323 Harry Hines Blvd., Dallas, TX; Tel.: 214-648-1400; Email: joseph.hill@utsouthwestern.edu. [AA/EOE]

Postdoctoral Positions-Electrophysiologist/Molecular Biologist: Two postdoctoral positions: One position is to study calcium sparks and potassium channels in arterial smooth muscle cells. Particular emphasis will be placed on regulation by mitochondria and carbon monoxide. Experience with cardiovascular physiology, electrophysiology, confocal microscopy and/or calcium imaging preferred. A second postdoctoral position requires expertise with molecular biology, including cloning, western blotting, PCR, RACE, and pinpoint mutagenesis. Required qualifications for both positions include a PhD or MD. Send curriculum vitae and names and addresses of three references to Jonathan H. Jaggar PhD, Department of Physiology, University of Tennessee Health Science Center, 894 Union Avenue, Memphis, TN 38163; Email: jjaggar@physio1.utm.edu. Title VI/Title IX/Section 504/ADA/ADEA employer. [EEO/AA]

Postdoctoral Electrophysiologist Position: Electrophysiologist to participate in the study of hypothalamus-pituitary interactions. The focus is on the cooperative interrelationship between pituitary cells secreting prolactin and neural pathways involved in its rhythmic secretion. Applicants should have published experience with whole-cell and single-channel patch clamp recordings. It is also desirable, but not necessary, that applicants have experience with calcium imaging. The applicant will be part of a collaborative NIH-funded project that is between a neuroendocrine lab and a mathematical modeling lab. The approach used in this

collaboration is to combine mathematical modeling with experimental data from several hypothalamic nuclei and from cultured lactotrophs to construct an integrated model of this neuroendocrine system (See *Endocrinology* 145:3386-3394, 2004). The duration of the postdoctoral position is at least two years. Please send a CV and names of three references by email (preferred) or post to: Marc E. Freeman, PhD Department of Biological Science and Neuroscience, Florida State University, Tallahassee, FL 32306-4340; Tel: 850 644-3896; Email: freeman@neuro.fsu.edu; Web: <http://www.neuro.fsu.edu/faculty/freeman/index.htm>

Postdoctoral Positions: Three postdoctoral positions are available for "Translational Research in Aging" at Harvard Medical School and affiliated institutions with a start date of July 1, 2005. Support is provided through an NIA funded Institutional Training Program. Areas of research include: (clinical) age-related changes in vestibular function and cerebral blood flow regulation; MRI studies of aging and age-related diseases of the brain affecting gait and cognition; dynamic foot pressures and kinesiology; bone and mineral research (CT imaging of the skeleton and its relation to vascular calcification, dietary protein and bone health; cerebral vasoregulation in stroke; cardiovascular and cerebrovascular causes of falls and syncope; (Basic Science) molecular basis of lifespan extension; sleep and aging; mitochondrial DNA mutations in aging; pathogenesis of neurodegenerative disorders in elders (e.g. Alzheimer's disease). Interested individuals should submit CV and a letter of intent indicating their interest in one or more of the above areas by **December 1, 2004** to: Changiz Geula, PhD, cgeula@bidmc.harvard.edu. Applicants will be matched with mentors for preparation of a full proposal, due January 15, 2005. Applicants must be US citizens or permanent residents.

Faculty Positions

Assistant or Associate Professor Tenure-Track Faculty Positions:

The Department of Biological Sciences of Wright State University (WSU) invites applications for multiple tenure-track faculty positions at the level of Assistant or Associate Professor. We anticipate hiring five to seven new faculty over the next three years. Successful candidates must have a doctorate by time of appointment and sufficient research experience to establish and maintain an independent, extramurally funded research program. Positions available include: **Bioeducator:** the successful candidate will share a joint appointment between the College of Science and Mathematics (two-thirds) and the College of Education (one-third); teaching efforts will be directed at training pre-service early and middle childhood teachers and research into science education; the candidate will interact with other science educators who are contributing to WSU's unique interdisciplinary effort to enhance the teaching of science; a PhD or EdD and either a graduate degree in Biological Sciences or two years related experience in a biological field is required; experience teaching at the pre-college level is preferred; **Cell/Molecular Biologist:** preference will be given to candidates with research expertise in immunology, virology, neurobiology, signal transduction, bioinformatics/computational biology, or microscopy; opportunities for departmental collaboration include current faculty research on cell cycle regulation, cytoskeletal dynamics, immune and inflammatory mechanisms, bioinformatics, molecular evolution, and microbiology; **Ecologist/Environmental Scientist:** preference will be given to candidates with expertise in fish ecology, toxicology/toxicogenomics, or whose research interests bridge multiple scales (metapopulations, ecosystems, landscapes); opportunities for departmental collaboration include current faculty research in aquatic biology, plant/woodland ecology, ecotoxicology, and environmental risk assessment; **Invertebrate Biologist:** the successful candidate should spe-

cialize in zoology, ecology, or evolution; opportunities for departmental collaboration include current faculty research in plant-herbivore interactions, parasitology, aquatic biology, evolution, development, and comparative physiology; **Organismal/Exercise Physiologist:** the successful candidate will augment departmental research programs studying comparative animal, exercise, and plant physiology; approaches from molecular to organismal are welcome; candidates interested in being involved with the Exercise Biology program are encouraged to apply; competitive start-up packages will be tailored to the specific needs of successful candidates; instructional responsibilities will include teaching undergraduate and graduate courses in the area of specialization and mentoring graduate students participating in the BioMedical Sciences PhD program, the Environmental Sciences PhD program, the Biological Sciences MS program and/or the Microbiology and Immunology MS program; applications from couples who have independent research programs are invited. WSU is a major metropolitan university with more than 15,000 undergraduate and graduate students. Biological research facilities/resources at WSU include a Genomics Core Facility, a modern animal care facility, a newly constructed green house, and on-campus wooded Biology Preserve. The department graduates approximately 150 students per year in programs that include general Biology, Clinical Laboratory Sciences, Exercise Biology and Environmental Health. The Department of Biological Sciences and the College of Science and Mathematics are committed to initiatives that include under-represented groups in undergraduate and graduate education. It is hoped that one or more successful candidates will be able to recruit minority students to these initiatives. Appointment at the Associate level will require meeting the criteria in the Department Bylaws. More information on WSU, the Department of Biological Sciences, its Graduate Programs, and this job search can be found at <http://biology.wright.edu/dept/jobs04.html>. Send curriculum vitae, statement of

research and teaching interests, and names and contact information for three references to Chair of the Search Committee, Department of Biological Sciences, Wright State University, Dayton, OH 45435-0001. Electronic applications can be sent to biology@wright.edu. Indicate in your letter which area(s) of specialty you are applying for. Review of applicants for all positions will begin **November 14, 2004** and continue until all positions are filled. [EEO/AA]

Endowed Professorship: Nominations and applications are sought for a distinguished scientist to fill the Marie Underhill Noll Endowed Professorship at the Noll Laboratory, Department of Kinesiology, College of Health and Human Development, The Pennsylvania State University. We wish to recruit an internationally recognized investigator dedicated to the study of physiology, especially as it relates to exercise, physical activity, and health. Candidates focused on cardiovascular, neuromuscular, musculoskeletal, or metabolic processes, using a variety of models and approaches from molecular to whole organism, will all be given consideration. The search is purposefully broad; applicants with proven expertise in physiological domains other than those listed are also invited to apply. Selection will be based on the applicant's record of productivity and achievement, as well as his or her overall fit within the organization. The successful candidate for this senior-level, tenure-track faculty position will have an outstanding record of scholarship, including published research and extramural funding. Preference will be given to candidates with research interests that best complement the strengths of the current faculty in Noll Laboratory and the Department of Kinesiology. An interest in collaborative research and a willingness to interact with scientists at other levels of inquiry are highly desirable. The Noll Professorship is located in the Department of Kinesiology (<http://www.hhdev.psu.edu/kines>) of the College of Health and Human Development (<http://www.hhdev.psu.edu/>) on the University

Park Campus (<http://www.psu.edu>). Ample research space and resources are provided in the Noll Laboratory (<http://www.noll.psu.edu>), a free-standing, three story facility with 31,605 square feet of research and office space. The laboratory features animal care and research areas, a two-compartment hypo-hyperbaric chamber, three environmental chambers providing precise control of temperature, humidity, and air movement, treadmills, ergometers, and an underwater weighing tank. In addition, state-of-the-art indirect calorimetry systems include a 24-hour room calorimeter and resting and exercise calorimetry systems. The facility also includes a physical examination area, two general testing areas, two biochemistry laboratories, areas for special projects, and mechanical and electrical shops for instrument fabrication, maintenance and repair. The 10,000 square foot Elmore Wing was added to the Noll building in 1998 to house the General Clinical Research Center, a joint operation of Penn State's Milton S. Hershey Medical Center and the College of Health and Human Development. This new facility contains overnight beds, kitchen and dining facilities, and procedure rooms for conducting clinical research. Founded in 1855, Penn State is Pennsylvania's only land grant university and has a broad mission of teaching, research and public service. It enrolls approximately 80,000 students at 24 campus locations statewide, and offers instruction in more than 160 baccalaureate and 150 graduate programs. The University Park campus, with an enrollment of some 41,000 students, is Penn State's administrative and research hub. The campus is located in central Pennsylvania, adjacent to the community of State College, which enjoys high rankings for cultural opportunities, local schools, and quality of life. Other Penn State campuses, including the College of Medicine at the Hershey Medical Center and the Dickinson School of Law in Carlisle, play a vital role in the University's overall mission. The University is dedicated to the integration of teaching, research, and service, and to the attainment of cultural and ethnic diversity. Penn State has estab-

lished a Dual Career Office to support and assist dual career couples moving to the university. Direct inquiries to Dr. Neil Sharkey at 814-865-1972, or by email at NAS9@PSU.EDU. Women and minorities are encouraged to apply. Applications should include a cover letter describing interests and qualifications, a curriculum vita, and the names, addresses, telephone numbers, and email addresses of three references. All applications will be held in confidence until finalists are invited to the University Park campus. References will not be contacted without the consent of the candidate. Review of applications will begin **November 1, 2004** and will continue until the position is filled. Send applications to: Chair, Search Committee for Noll Endowed Professorship, Attention: Amy Mitchell, Department of Kinesiology, 266 Recreation Building, Box D, University Park, PA 16802. [EEO/AA]

Chair, Department Of Physiology:

The University of Massachusetts Medical School is seeking applications from or nominations of established scientists for the position of Chair of Physiology. During the past five years, the school has experienced an unprecedented research expansion resulting in the doubling of our research faculty, infrastructure, graduate student body, and extramural research support. This success reflects our commitment to the expansion of neurobiology, chemical biology, cancer biology, gene function & expression, genomics and proteomics. Our success reflects an exceptionally collaborative and multidisciplinary research environment. We are now committed to further expanding our activities in the area of integrative biology/physiology. The department of physiology has a long history of national prominence in the areas of smooth muscle biology, channel and receptor biophysics, neurobiology, cardiovascular biology and molecular imaging. The position offers opportunities for individuals with outstanding, integrative research programs that complement these areas. The successful candidate will have an internationally recognized research program, record of scholarly achievement, and outstanding leadership

abilities. For further information about the department, please visit: <http://www.umassmed.edu/Physiology> To apply, submit an application letter and brief personal statement, curriculum vitae, and name/contact information of three references to: Anthony Carruthers, PhD, Chair, Physiology Chair Search Committee, UMass Medical School, 364 Plantation Street, LRB 926, Worcester, MA 01605. For immediate consideration, please send application materials by **January 1, 2005**; however, the position will remain open until filled. [EEO/AA]

Faculty Positions in Chemosensory Research: As part of a major new expansion of facilities and research programs, the Monell Chemical Senses Center invites applications for full-time faculty positions. We seek outstanding investigators from diverse disciplines who are interested in pursuing research in the chemical senses. Research areas of interest include, but are not limited to: Cellular/Integrative/Behavioral Neuroscience, Development/Regeneration, Human Chemosensation, Metabolism/ Nutrition, Genetics and Molecular Biology, Computational Biology, Toxicology, Chemical Ecology and Epidemiology. Candidates must possess a PhD or MD. Postdoctoral experience is preferred, but prior experience in chemosensory research is not required. The successful candidate will be expected to develop and fund an independent research program and collaborate with colleagues at the Center. Both junior and senior level applicants are welcome. The Monell Center, founded in 1968, is the world's premier institute devoted to basic, multidisciplinary research on the mechanisms and function of the chemical senses. Further information about the Center can be found at <http://www.monell.org>. Applicants should send the following materials in electronic form to H R 0 9 0 7 @ m o n e l l . o r g : a curriculum vitae, list of publications, three representative publications, statement of research interests and the names and addresses of three individuals willing to provide letters of reference. Review of applications will begin **November 15, 2004**. [EEO/AA]

Assistant Professor of Biology: The Department of Biology at Harvey Mudd College is seeking a tenure-track Assistant Professor with teaching and research expertise in animal physiology. The successful candidate's teaching will include animal physiology with lab, introductory biology lab, and an advanced seminar course on selected topics in physiology. The successful candidate will develop an independent research program that will involve undergraduate students during the academic year and summer. We are particularly interested in identifying an individual whose scholarship can establish connections with other scientific and engineering disciplines. For example, the research interests of the individual might be in biochemical physiology, biomechanics, or neurophysiology. Harvey Mudd College, a member of the Claremont Colleges, is a small and highly selective private undergraduate college of science, mathematics, and engineering. Claremont is situated approximately 35 miles east of downtown Los Angeles. A PhD in an appropriate discipline is required, and postdoctoral research experience is highly desirable. Applicants should submit a CV, a statement of teaching experience and interests, a statement of research plans, and the names and contact information of at least three professional references. Send all materials to: Dr. David Asai, Department Chair, Department of Biology, Harvey Mudd College, 301 E. 12th St., Claremont, CA 91711; email: david_asai@hmc.edu. Review of applications will begin **November 1, 2004** and continue until the position is filled. Harvey Mudd College is an equal opportunity employer and is committed to the recruitment of candidates historically underrepresented on college faculties. (<http://www.biology.hmc.edu/index.html>)

Faculty Positions, Marine Biology and Vertebrate Physiology: The Department of Biology at Occidental College invites applications for two tenure track faculty positions, one in Vertebrate Physiology, using cellular and/or molecular approaches, and one in Marine Biology. Rank and salary are subject to qualifications; hires at a

senior level will be considered. Applicants should have a strong commitment to educating undergraduates through teaching and research. For both positions the successful candidate is expected to develop a rigorous research program involving undergraduates. Both faculty members are expected to participate in teaching introductory and intermediate level biology courses and to develop an upper level course in their area of specialty. Many opportunities exist for faculty to participate in interdisciplinary programs such as Biochemistry, Cognitive Science, the Core Program, Psychobiology, or Women's Studies. Faculty is expected to participate in the College Core program, either by teaching introductory science classes or teaching interdisciplinary core classes. Occidental is a nationally ranked small liberal arts college with excellent research and teaching facilities, located in Los Angeles, near Caltech and other research institutions. The College's location allows for outstanding opportunities for access to marine research facilities. Occidental is nationally recognized for its broadly diverse student body, and for its outstanding undergraduate research program. For more information on Occidental College, please visit our web site at <http://www.oxy.edu>. Applicants should submit a letter of interest demonstrating a commitment to academic excellence in a diverse liberal arts environment, curriculum vitae, separate statements of research and teaching interests, copies of significant publications, and have three letters of reference sent to: Faculty Search Office M8888; addressed either: Attention: Roberta Pollock, Vertebrate Physiologist Search Chair or Attention: Elizabeth Braker, Marine Biologist Search Chair; Occidental College; 1600 Campus Road; Los Angeles, CA 90041. Review will begin **September 30, 2004**, and continue until the position is filled. The College is committed to academic excellence in a diverse community and supporting interdisciplinary and multicultural academic programs that provide a gifted and diverse group of students with an educational experience that prepares them for leadership in a pluralistic world. Women and minorities are strongly encouraged to apply. [EEO]

Faculty Position: The University of Sint Eustatius School of Medicine invites applications for a faculty position in Medical Physiology. Positions are available as of January 1, 2005. Applicants should have an MD degree (preferably also a PhD) and demonstrable teaching and clinical experience, preferably in a US setting. Positions are filled at the assistant, associate, or full-professor level, depending on qualifications and experience. Employment comes with a tenure track option. The mission of the school of medicine is to provide high quality medical education and to develop and implement new approaches to teaching in medicine (<http://www.eustatiusmed.edu>). The University of Sint Eustatius is located on the island of Sint Eustatius, one of the Windward Islands of the Dutch Caribbean. Sint Eustatius is a small, quiet island that provides a friendly and safe living environment. Interested applicants are invited to send a curriculum vitae with a list of three references to G. Peter Vooijs, MD, PhD, Dean; Email: pvooijs@eustatiusmed.edu; Tel: + 599 318 2600.

Faculty Positions: The Kidney Disease Center and Department of Medicine of the Medical College of Wisconsin seeks to recruit two Clinical or Basic scientists interested in developing research programs studying: 1) the cell biology of glomerular and tubular cells in renal diseases; or 2) the genetic basis of hypertension and diabetic nephropathy, transplant rejection and acute renal failure using genomic, expression array and proteomic techniques or knockout mouse model systems. Candidates with an MD, MD/PhD, or PhD and expertise in these areas are encouraged to apply. The newly formed Kidney Disease Center provides an excellent collaborative environment with active research programs in the hypertension and diabetic nephropathy, glomerular disease, kidney stone disease, renal pathophysiology, proteomics, genomics of renal disease, transplantation, cell signaling, and ischemic injury. The successful candidate will be provided with an excellent startup package including salary, lab-

oratory space, equipment and access to core imaging, histology and animal research facilities. MD candidates should be able to participate in the patient care mission of the Division of Nephrology and/or Medicine and have research training appropriate for developing an independent laboratory. PhD applicants should be beyond the postdoctoral level. Appointments can be made at the Assistant, Associate, or Professor level depending on the experience of the candidate. The successful candidate will be expected to maintain a well-funded extramural research program after several years of appointment. The position requires US citizenship or an immigrant visa. Interested candidates should submit their curriculum vitae to Richard J. Roman, Director of the Kidney, Disease Center, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226; Tel: 414-456-8723; Fax: 414 456-6546; Email: rroman@mcw.edu. [EDE M/F/D/V]

Faculty Position: At Ross University School of Medicine, our mission is to prepare highly-dedicated students to become effective, successful physicians in the United States. Since 2000, our graduates have obtained more first-year residency positions in the US than graduates from any other medical school in the world, including US medical schools. The Department of Physiology has an exceptional faculty opportunity available at our Portsmouth campus, which is located on the beautiful and culturally diverse Caribbean isle of Dominica, and boasts state-of-the-art facilities, high-tech classrooms, and hands-on laboratories. Requirements: PhD in relevant field of study or MD/PhD in Physiology or Medicine; experience teaching Physiology to medical students in North American or United Kingdom medical schools; excellent communication skills; dedication to teaching medical students and interest in developing/implementing creative teaching techniques to improve medical student understanding and appreciation of physiology. Preference will be given to those individuals with a strong track record of teaching excellence, especially in the area of

Endocrine Physiology. Individuals are encouraged to explore, design, and deliver innovative medical physiology curricula. Excellent opportunities exist for medical education research, including long-distance training, computer-based delivery, and assessment of physiology curriculum, integration of clinical medicine with physiology basic science, and multi-format course design. Our offer includes a highly competitive, potentially tax-free annual salary, relocation assistance, deferred pension program, medical benefits, 25 days of paid annual leave, and opportunities for professional development. Professorial rank will be commensurate with qualifications and experience. Ross University School of Medicine is a subsidiary of DeVry, Inc., the second largest private university in the US. Our enrollment, registrar, and financial aid services are located in Edison, NJ. To apply, please visit our website at <http://www.rossmed.edu>, select Careers at Ross, and complete our online application process. A review of applications will continue until the position is filled. [EOE]

Faculty Position: College of Arts and Sciences, Faculty: Human Physiology, Epidemiology and Environmental Health for January 2005. Zayed University, the premier university in the United Arab Emirates, is an exciting and innovative young institution committed to the education of Emirati women. It has about 130 faculty and 1,200 students on each of its campuses in Abu Dhabi and Dubai. Zayed University graduates bilingual students who are global in their thinking and equipped to become leaders of their country and role models for women in the Arab world. The educational programs delivered through five colleges feature interdisciplinary and integrative pedagogy, and incorporate extensive use of educational technology. The principal language of instruction is English. Zayed University, although primarily an undergraduate institution, does offer graduate programs in selected fields. Faculty responsibilities include teaching, research, and community service and outreach. The United Arab Emirates

is a progressive country known for its high standard of living and its safe and family friendly environment. The University seeks teaching scholars who hold a doctoral degree, or equivalent, from a recognized university in the area of appointment and who are creative and flexible. Candidates must demonstrate excellence in teaching and research. International experience and/or love of adventure is expected. Rank and salary are open. The College of Arts and Sciences is the largest of Zayed University's five colleges, both in terms of the number of faculty and the diversity of its programs. The College takes primary leadership in the Colloquy On Integrated Learning, Zayed University's core curriculum. The Colloquy builds students' understanding through a full range of subjects recognized as the foundation for modern learning. The College offers BA programs in Art and Design and Social and Behavioral Science and a BS in Health Sciences. We are particularly interested in candidates able to contribute to the goal of developing female health professionals for the UAE. Successful candidates will have a dedication to the principles of liberal learning, a commitment to curricular innovation, and a record of professional accomplishment appropriate to their rank. Faculty are sought who can offer high quality teaching in the field of Health Sciences, while contributing to interdisciplinary science courses in the core curriculum. Female candidates are particularly encouraged to apply. The requirements: Doctorate or equivalent in the specific areas or a closely related field. All candidates are expected to have baccalaureate level teaching experience and active research interests. The benefits: The University's benefits package is highly attractive, with competitive salaries free of tax in the United Arab Emirates, housing, a furniture allowance, annual vacation airline tickets for the employee and his/her family, educational subsidies for children and subsidized healthcare for the employee. To apply: please complete an online application at <http://www.zu.ac.ae> and attach a letter of application and a current CV, the names and contact details of at least

three referees, a statement of undergraduate teaching philosophy, a statement of scholarly and creative interests, particularly as they may apply to the Middle East, and as to how they might involve undergraduate students.

Assistant Professor-Biology: The Department of Biology at Westminster College seeks two tenure-track Assistant Professors to begin in August 2005, as listed below. The successful candidates will have broad training, versatility, and dedication to quality teaching and advising in a liberal arts environment, and a strong commitment to research with undergraduates. A PhD in the appropriate field is required at the time of hiring. Those with demonstrated excellence of undergraduate teaching will be given special consideration. **Physiologist:** teaching responsibilities will include physiology, introductory biology, and upper level courses in the candidate's area of expertise. Opportunity exists for participation in an interdisciplinary neuroscience major. **Developmental Biologist:** teaching responsibilities will include developmental biology, introductory biology, and upper level courses in the candidate's area of expertise. Opportunity exists for participation in interdisciplinary majors in bioinformatics and neuroscience. Westminster College is a coeducational, liberal arts institution with historic ties to the Presbyterian Church. The College enrolls about 1,500 full-time students and employs about 105 full-time faculty. It is located in a beautiful rural setting in close proximity to both Pittsburgh and Cleveland. The Department of Biology is housed in a modern science building with excellent teaching, research, and computing facilities. To apply, send a letter indicating teaching experience, unofficial academic transcripts, and a curriculum vita. Arrange to have three letters of recommendation sent separately. Also include a statement of teaching philosophy addressing ability to teach lecture and laboratories in the courses listed above. All information should be received by **November 19, 2004**. Send materials to Dr. Ann E. Throckmorton, Department of Biology, Westminster College, New Wilmington, PA, 16172. [EOE]

Assistant Professor of Biology-Animal Physiology: The Department of Natural Sciences at the University of Michigan-Dearborn invites applications for a tenure track assistant professor with a focus on Animal Physiology beginning September 2005. Teaching duties include an upper division undergraduate course with laboratory in Comparative Animal Physiology, an upper division undergraduate course in an area of his/her own expertise, and participation in introductory biology courses. The successful applicant will be expected to develop and maintain an active research program leading to peer-reviewed publications. The specific area of applicant research is open, but should reflect molecular and cellular processes that regulate physiology, complementing our faculty and programs in biology, microbiology, and biochemistry. Start-up funds are available. PhD and strong commitment to undergraduate teaching and research required. UM-Dearborn is a diverse academic community, a regional campus of the University of Michigan system with an enrollment of 9,000 primarily undergraduate students. Send letter of application including statement of teaching philosophy and research plan, CV, and contact information for three references to Physiology Search Secretary, Department of Natural Sciences, University of Michigan-Dearborn, 4901 Evergreen Rd., Dearborn, MI 48128. For additional information about the Department of Natural Sciences see <http://casl.umd.umich.edu/natsci/>. The University of Michigan-Dearborn is dedicated to the goal of building a culturally diverse and pluralistic faculty committed to teaching and working in a multicultural environment and strongly encourages applications from minorities and women. [EOE/AA] **Associate or Full Professor:** The Vascular Biology Center at the Medical College of Georgia is accepting applications from outstanding candidates to fill a tenure-track, faculty position at the Associate or Full Professor level. The successful candidate will have earned PhD or MD/PhD degrees in a biomedical science and a nationally recognized extramurally funded program in vascular biology.

Preference will be given to applicants with expertise in pulmonary vascular biology. He/she will be expected to interact closely with other members of the Center and the MCG scientific community and devote approximately 15% effort to the teaching and service missions of the institution. The Vascular Biology Center employs 12 highly successful, tenured or tenure-track faculty and a total of 85 scientists (fellows, students, research assistants) with expertise in the biology of nitric oxide, endothelin, eicosanoid and the rennin-angiotensin system, who raise in excess of \$6.5 million extramural research funds per year. The Center directs the PhD program in Vascular Biology, as well as pre-doctoral and postdoctoral T32 training programs in Integrative Cardiovascular Biology. Competitive salary, newly renovated laboratory space and generous start-up funds are available. Interested individuals should forward a letter of intent, detailed CV and three reference letters to Dr. John D. Catravas, Director, Vascular Biology Center, Medical College of Georgia, Augusta, GA 30912-2500; Tel.: 706-721-6338; Email: jcatrava@mcg.edu by **February 1, 2005**. [EOE/AA]

Assistant Professor Of Biology: The Department of Biology of the University of South Florida (<http://www.cas.usf.edu/biology>) invites applications for a nine-month, tenure-track position at the Assistant Professor level to begin in August 2005. The successful candidate will be expected to develop an externally funded research program addressing fundamental questions in ecological/evolutionary physiology of marine/freshwater or terrestrial animals. Teaching interests should include general and animal physiology and graduate courses in the candidate's area. A PhD in biology, physiology or related field and postdoctoral experience are required. Salary is negotiable. Applicants should send their curriculum vitae, statement of research and teaching interests, up to three representative reprints and names of three references (including Email addresses) to: Chair, Physiology Search Committee, Department of Biology,

SCA 110, University of South Florida, 4202 East Fowler Avenue, Tampa, FL 33620-5200. Complete applications must be received by **December 15, 2004**. According to Florida law, applications and meetings regarding them are open to the public. Applications from women and minorities are encouraged. For ADA accommodations, please telephone Kathleen Hotchkiss at 813-974-3250. [AA/EEO]

Assistant Professor-Biological Sciences: Located in Staten Island and overlooking the Manhattan skyline, Wagner College is a private, non-sectarian 80% residential college of 1,800 traditional aged undergraduates and 300 graduate students in selected professional programs. The College has been widely recognized for its innovative curriculum, The Wagner Plan for the Practical Liberal Arts, which integrates a core curriculum, required learning communities, experiential learning, diversity and civic education, as cited by *TIME* magazine, *US News & World Report*, the educational media and several higher education associations. Further information about the College can be found on the Wagner Web site, <http://www.wagner.edu>. The Department of Biological Sciences, Wagner College, seeks an Assistant Professor (tenure-track) with a strong background in comparative physiology and anatomy. The successful candidate must have a completed PhD in Biology and will be expected to teach basic and advanced courses, which serve the needs of majors in Biology, Biopsychology and pre-professional students (e.g., Introductory Comparative Physiology, General Biology, Comparative Vertebrate Anatomy and, perhaps, Developmental Biology), as well as courses for students preparing for professional degrees in Health Sciences (e.g., Human Anatomy and Physiology), and non-majors (e.g., Human Biology). Preference will be given to candidates with teaching experience and an interest in undergraduate research. If interested, please send a cover letter, curriculum vitae and transcripts with the names, addresses and phone numbers of three references to: Dr. Zoltan Fulop,

Professor of Biology, Chair, Search Committee, Department of Biological Sciences, Wagner College, One Campus Road, Staten Island, NY 10301. **Postmarked by January 15, 2005**.

Assistant Professor: The University of Toronto at Mississauga (UTM), Department of Biology, invites applications for a tenure track faculty position in Neuroscience at the level of Assistant Professor, effective July 1, 2005. UTM has considerable strength in molecular biology, genetics, physiology, and animal behaviour and we are interested in an individual whose research can link molecular biology to the physiology and behaviour of an animal as a whole. We are particularly interested in a neuroscientist working with lower vertebrates or invertebrates, and with strengths in neurophysiology and neuropharmacology, who can provide expertise in the functional analyses of the nervous system at the physiological level. Depending on the interests of the individual, teaching could include vertebrate physiology and pharmacokinetics. There is also an opportunity to teach in the Masters of Biotechnology program at UTM. <http://www.erin.utoronto.ca/mbiotech/>. The successful applicant will be part of the newly established Centre for Research on Biological Communication Systems that houses our Genes, Behaviour Nervous Systems and Environment Research Cluster. In addition, our Centre for Applied Biosciences and Biotechnology provides modern state of the art facilities for molecular biology and microscopy including confocal microscopy, qRT pcr, DNA sequencing, NMR and the Canadian *Drosophila* Microarray Centre. The successful applicant will have a PhD and preferably postdoctoral experience, an outstanding academic record and evidence of potential for excellence in teaching. The appointee will be expected to build an active, externally funded and internationally recognized research program and to contribute to the education and training of undergraduate and graduate students. Salary will be commensurate with qualifications and experience. The suc-

Successful candidate will be located in the Department of Biology, University of Toronto at Mississauga (UTM), and will also be a member of the graduate Department of Zoology, University of Toronto. The University of Toronto at Mississauga, with an undergraduate enrollment of 8,800 students, is one of three campuses of the University of Toronto. The city of Mississauga is located on the western border of Toronto, approximately 20 km from Toronto's Civic Centre. In light of the extensive expansion (80% growth) occurring at UTM, we anticipate the addition of many new positions in the Life Sciences. New buildings are being constructed, and existing laboratory facilities are being renovated to support research in Biology and cognate disciplines. The University of Toronto is strongly committed to diversity within its community and especially welcomes applications from visible minority group members, women, Aboriginal persons, persons with disabilities, members of sexual minority groups, and others who may contribute to the further diversification of ideas. All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority. Applications will be accepted until **December 15, 2004**. Applicants should provide a curriculum vitae, statement of teaching philosophy and interests, an outline of their proposed research, and should arrange to have three confidential letters of recommendation sent on their behalf to: Professor Robert Baker, Chair, Department of Biology, University of Toronto at Mississauga, Mississauga, Ontario, Canada L5L 1C6. <http://www.utm.utoronto.ca/~w3bio/homepage/>

Assistant/Associate Professor:

The Department of Physiology of the Radboud University Nijmegen Medical Centre consists of the sections Integrative Physiology and Cell Physiology, and has a traditional strength in clinical cardiovascular physiology and transport physiology in epithelia. The department has build up a substantial know-how and infrastructure in the field of molecular, cellular and human physiology.

The laboratories are housed in the "Nijmegen Center of Molecular Life Sciences (NCLMS)" and will soon be housed in the Clinical Research Centre in the hospital. These settings create a unique scientific infrastructure allowing stimulating and innovative science in the Netherlands. The research objective of the section Integrative Physiology is to elucidate the pathophysiological mechanisms responsible for changes in regulation and adaptation of the circulation to inactivity and training in relation to chronic disease and aging. Unraveling these pathophysiological mechanisms, in human-in-vivo conditions at the organic, endothelial and genomic level, will contribute to better countermeasures to prevent the early onset of chronic diseases. Within this scope, the candidate will have his/her own primary human or animal related research program, with supervision of PhD students and master students. The candidate is responsible for additional funding. The teaching load will be limited, in order to give the candidate the opportunity to build up his/her own research group. Requirements: PhD in the area of biomedical sciences. Appropriate research experiences as a postdoctoral fellow, including foreign training is a *pré*. A strong record of research accomplishment and publications, and demonstrated ability in acquisition of external funding. Applications: Further information can be obtained from M. Hopman (M.Hopman@fysiol.umcn.nl or 0031-024-3614200) or R. Bindels (R.Bindels@ncmls.kun.nl or 0031-243614211). Applicants should send a letter of intent outlining special interest in the position, overall related qualifications, experience and a curriculum vitae, including a list of publications and names and addresses of three professional references to: M. Korsten, 234 Clusterbureau BEG, UMC St Radboud, PO Box 9101, 6500 HB Nijmegen, the Netherlands. Application review will begin on **November 1, 2004**, and continue until the position is filled. More information about the department can be found at <http://www.kun.nl/fysio>.

Anatomy and Physiology Instructor: (Start Date: August 2005). Responsibilities: Teach Anatomy and Physiology lectures and laboratories; teach in transferable, entry level, majors and non-majors biology lectures and laboratories; develop syllabi and course materials; evaluate student mastery of skills and competencies required by course outcomes; provide an excellent teaching experience, as well as student advisement, recruitment activities and program/curriculum development; participate in program/division meetings and activities and serve on department and college-wide committees; assignments may be multi-campus with the possibility of day, evening, and/or weekend classes. Salary: Based on education and experience; placement on CCSN Faculty. Salary Schedule (salary schedule on CCSN website): A maximum of 10 years of teaching experience allowed. Qualifications: Required: Master's degree with biological sciences; teaching experience in Anatomy & Physiology; preferred: PhD or EdD in biological sciences; teaching experience within a college system. Required Application Materials: Community College of Southern Nevada application (available online); cover letter and resume; pre-employment certification; names, addresses and telephone numbers of five professional references with knowledge of your work experience; unofficial transcripts from an accredited college or university with degree posted; finalist candidate must provide official transcripts prior to hire date. Deadline: Friday, **January 27, 2005**, 5 PM PST. All materials sent remain the property of the College and will not be copied or returned. Faxed materials will not be accepted. All required application materials must be received in Human Resources by the deadline date or your application will be disqualified. Postmarks will not be accepted. Submit application materials to: Community College of Southern Nevada, 3200 E. Cheyenne Ave., S2H, North Las Vegas, NV 89030; Tel.: 702-651-4312 or 702-651-4546 CCSN website: <http://www.ccsn.nevada.edu>, click on human resources. Community College of Southern Nevada recognizes that embracing

diversity maximizes faculty and staff contribution to our goals and provides the best opportunity for student achievement. CCSN is responsive to serving the educational needs of a diverse and ever-changing community. [EOE/AA]

Assistant Professor: Molecular Biology, Three Tenure-Track Positions. The Department of Biology at Appalachian State University (<http://www.biology.appstate.edu>) seeks to fill three tenure-track positions at the Assistant Professor rank (one position may be filled at the Associate Professor rank) as part of a new initiative in molecular biology. Preferred areas of expertise include: **Microbiology:** Physiology, genetics and/or pathogenicity of prokaryotes; **Plant Development:** Molecular control of plant developmental processes; **Cell Biology/Physiology:** Molecular basis of cell function and physiology in vertebrates; **Functional Genomics:** Gene sequencing, mapping, function and evolutionary relationships. We seek teacher-scholars who will combine strong externally-funded research programs with excellence in teaching at the undergraduate and graduate (Masters) levels. Applicants should have postdoctoral experience and interest in using molecular techniques to bridge biological disciplines. Competitive start-up funds will be available to equip a shared molecular biology facility. Appalachian, a member institution of the 16 campus University of North Carolina System, is a highly ranked comprehensive university located in the mountains of Western North Carolina and less than a two hour drive from metropolitan Charlotte, Winston-Salem and Greensboro. With an enrollment of over 14,600 students, Appalachian seeks to maintain its reputation for excellence in teaching while expanding its research efforts. The University and Department are committed to increasing diversity and welcome applications from members of minorities and underrepresented groups. To apply send a cover letter, CV, statement of research interests, statement of teaching interests and philosophy, and contact information for at least

three references (name, address, telephone, email address) to Dr. Ray Williams, Chair, Molecular Biology Search (Specify application area), Department of Biology, 572 Rivers Street, Appalachian State University, Boone, NC 28608. For further information contact Dr. Williams at willmsrs@appstate.edu. Positions will remain open until filled; review of applications begins **December 15, 2004**. Women and minorities are encouraged to apply. [AA/EOE]

Assistant Professor: Pending final budgetary approval, Drake University seeks a tenure-track Assistant Professor of Biology with training in Physiology, beginning fall semester 2005. Teaching responsibilities include a one-semester course in Mammalian Physiology and participation in a team-taught inquiry-based, Introductory Biology course, each with lecture and lab. A specialty course may be developed. Qualifications include a PhD in Physiology or related area, with teaching and postdoctoral experience preferred. A commitment to inquiry-based teaching in an interdisciplinary setting is expected, along with development of an externally funded research program that can engage undergraduates. Review of applications begins **November 29, 2004**, and continues until the position is filled. Please send CV, references, philosophy of teaching/research, publication samples, and transcripts to: Dr. Richard Wacha, Biology Chairperson, Drake University, 2507 University Avenue, Des Moines, IA 50311; Email: richard.wacha@drake.edu; Fax: 515-271-3702. [EOE/AA]

Assistant, Associate, or Full Professor: The George Washington University Medical Center, Department of Pharmacology & Physiology is accepting applications for a Tenure-Track Assistant, Associate, or Full Professor. As part of a new strategic initiative, investigators in Cardiovascular Physiology are encouraged to apply, especially those with research interests in cardiac regeneration and remodeling, mechanisms of arrhythmia, oxidative stress, and the use of

stem cells. Other areas of strength in the Department include neuroscience and molecular oncology. The successful applicant will have an outstanding record of research accomplishment and demonstrated ability to compete for extramural funding. In addition to maintaining a highly productive research program, the successful candidate will participate in teaching graduate and medical students. The George Washington University is located five blocks from the White House, and is a partner in the Institute for Biomedical Sciences (IBS), which includes Children's Research Institute of the Children's National Medical Center and The Institute for Genomic Research (TIGR). In addition, the IBS enjoys close ties with researchers at the NIH research campus. Competitive salary and start-up funds are available for this position. Faculty rank and salary will be commensurate with prior experience. Applicants with a PhD and/or MD degree or equivalent degree and substantial postdoctoral experience should submit a curriculum vitae, a detailed statement of research accomplishments and future research plans, funding history, a description of teaching experience, and the names, addresses and telephone numbers of at least three references to: Prof. David Mendelowitz, Chair of the Faculty Search Committee, Department of Pharmacology & Physiology, Ross Hall 640, The George Washington University Medical Center, 2300 Eye Street, N.W., Washington, DC 20037. Review of applications will commence on December 1, 2004 and continue until the position is filled. [EOE/AA]

Faculty Positions in Exercise and Nutrition Sciences: The Department of Exercise and Nutrition Sciences, University at Buffalo, invites applications for faculty positions at the Associate Professor (tenure-track), Assistant Professor (tenure-track), and Research Assistant Professor levels. Candidates should have an earned doctorate relevant to applied physiology, biomechanics, or basic and clinical nutrition, with an outstanding research and publication record com-

mensurate with the rank. Applicants are expected to develop an independent research program, seek external funding and contribute to teaching and service. Candidate review begins **February 7, 2005** with anticipated start date of August, 2005. Send: 1) letter of application, 2) curriculum vitae, 3) brief statement of future research plans, and 4) contact information for three references to Ms. M. Lannen, Assistant to the Chair, Department of Exercise and Nutrition Sciences, Kimball Tower, Room 405, University at Buffalo, Buffalo, NY 14214-3079, E-mail: lannen@buffalo.edu. *The University at Buffalo is an Equal Opportunity/Affirmative Action Employer/Recruiter*

Research Positions

Comfort Technology Champion. W.L. Gore & Associates is seeking a champion to lead and conduct research on heat and moisture transfer through clothing and textile materials and relate that knowledge to its influence on the comfort and temperature regulation of wearers. The position will involve developing predictive models that relate experimental and theoretical transport properties, the structure of materials and apparel construction to actual physiological and perceived comfort performance of garment systems. The successful candidate will work closely with business, product, and technical leadership to identify opportunities to drive strategic developments in textile and clothing comfort technology. He/she will also be responsible for collaborating with product development, sales and marketing associates to apply the learning from this research to the development of improved products with meaningful and relevant competitive positioning statements for protective apparel in recreational, industrial, and military uses. Qualifications: An advanced degree in physics, engineering, or equivalent experience, with five plus years of relevant research and proven experience developing products related to material technology preferred. Strong skills in

mathematics, modeling, statistics, and heat and mass transfer desired. We are looking for an organized, self directed, assertive and persistent creative problem solver; a person with the proven ability to develop, communicate, and execute project and technology plans; a hands-on team builder with the ability to effectively influence the actions of a small team; an excellent communicator with the ability to transfer and translate technical knowledge to practical simple solutions; and good networking, presentation and customer interaction skills desired. This position requires access to areas and information on the US Munitions List. Candidates must be "US persons" as that term is defined in 8 USC §1324b(a)(3). The term "US persons" includes resident aliens ("green-card" holders), as well as certain refugees, asylum-holders and residents qualifying for temporary residence under the terms of 8 USC §1255a. Travel: 10-15%. Position location: Elkton, MD. Contact: Julie Nelson/Recruiter/W.L. Gore/302-292-4120. Resumes sent to <http://www.gore.com>.

Integrative Physiologist: The Department of Biological Sciences at Louisiana State University (<http://www.biology.lsu.edu>) invites applications for a tenure-track position in Integrative Physiology. While we anticipate hiring at the Assistant Professor level, candidates at higher academic rank also are encouraged to apply. A PhD or equivalent degree in biological sciences or a related field, postdoctoral experience and a record of creative and significant research in any area of animal physiology (non-mammalian model systems preferred) are required. Integrative physiology involves understanding function at multiple levels from cells to organ systems. The successful candidate will be expected to develop a vigorous, extramurally funded research program and contribute to undergraduate and graduate teaching. Send curriculum vitae, including Email address, statement of research and teaching interests, three letters of recommendation and reprints of key publications to: Integrative Physiology Search

Committee, Ref. Log # 0168, Department of Biological Sciences, 202 Life Sciences Building, LSU, Baton Rouge, LA 70803. Review of applications will begin **October 25, 2004** and continue until the position is filled. [EOE]

Graduate Students. The Department of Health and Human Performance at the University of Houston is recruiting qualified graduate students interested in advanced studies in Exercise Physiology with the following professors: Mark S.F. Clarke, mclarke@mail.uh.edu (Mechanotransduction pathways: implications for muscle physiology and proteomics), Jill A. Bush, jbush@uh.edu (Impact of exercise on nutrient, endocrine, and immune regulation), Daniel A. Martinez, ddam@central.uh.edu (Connective Tissue Physiology), and/or Brian K. McFarlin, bmfcarlin@uh.edu (Nutrition and exercise: implications for immunity). For additional information please refer to <http://hhp.uh.edu/eprerecruit.html> or contact a specific professor by email.

Assistant Research Scientist: The Department of Internal Medicine, Division of Cardiovascular Diseases at the University of Iowa Carver College of Medicine is seeking an Assistant Research Scientist to perform basic research to advance knowledge of cellular and molecular mechanisms involved in the function of baroreceptor, cardiac and sympathetic neurons in vitro and in vivo. The work will require expertise in molecular biological techniques and cellular electrophysiology. Requires a person in this classification has the academic knowledge of a discipline that is generally associated with a Doctoral degree (PhD) in biomedical science, or an equivalent professional degree, ie, MD, DDS or DVM. In addition, the person will have had postdoctoral research training and demonstrated the ability to plan and execute a research study through some progressively responsible independent research work. Requires completion of postdoctoral training. Highly desires a PhD degree in Neuroscience and/or Physiology

and/or Biomedical Engineering; research experience in the areas of molecular biology, including PCR, cell culture and protein purification, and cellular electrophysiology, including patch clamp and voltage clamp recordings; and a sustained record of research accomplishment as evidenced by publication of research results in peer-reviewed scientific journals. Please send resume and cover letter indicating #50699 to: Carol Wehby, Human Resources, Internal Medicine, E400 GH, 200 Hawkins Drive, Iowa City, IA, 52242-1081. [AA/EEO]

Assistant Research Scientist: The University of Iowa Carver College of Medicine Department of Internal Medicine, Division of Rheumatology, is seeking an Assistant Research Scientist to perform basic or applied research in an immunology laboratory in which existing theory or methods may be limited or lacking with responsibility for identifying and selecting the problems to be studied, the approach to them and the results obtained. Requires a person in this classification has the academic knowledge of a discipline that is generally associated with a Doctoral degree (PhD) in biomedical science, or an equivalent professional degree, i.e., MD, DDS or DVM. In addition, the person will have had postdoctoral research training and demonstrated the ability to plan and execute a research study through some progressively responsible independent research work. Requires completion of immunology postdoctoral training. Requires experience in immunology, as evidence by published work in related national journals. Requires considerable research experience in cytokine biology in vivo using mouse models. Highly desires expertise in diabetes research. Please send resume and cover letter indicating #50854 to: Carol Wehby, Human Resources, Internal Medicine, E400 GH, 200 Hawkins Drive, Iowa City, IA, 52242-1081. [AA/EOE]

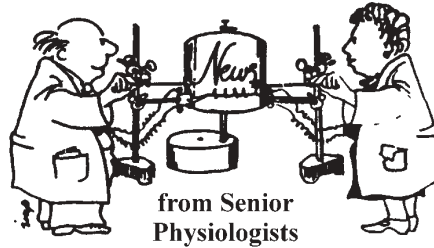
Manager, In Vivo Biology: Requisition Number: 20880; Location: King of Prussia, PA. At GlaxoSmithKline, scientists in Research and Development are committed to capturing this moment. They bring to it their own very considerable abilities, the resources of a parent company devoted to the scientific enterprise, and the urgency of knowing that their highest purpose is the relief of human suffering. In pursuit of this purpose, they desire to make of GlaxoSmithKline a magnet for others who share their talents, whether as prospective corporate colleagues or as collaborators in industry, academe, and government. Required Degrees: Bachelors Degree. Experience Required: six years. Minimum Requirements: six-10 years post-PhD in Drug Discovery Research and Management. Develop strategies and establish in vivo screens to identify disease related drug activities in small animals; provide expertise in Comparative Physiology and Inflammation Pharmacology that contributes to new models and to comparative biomarker applications in animals and man; lead the application of data analysis, bioinformatics and pathway mapping tools to extract disease and drug efficacy knowledge from experimental data; use excellent judgment and interpersonal skills in establishing plans and managing execution; foster teamwork and motivation to ensure optimal output of lab directors and staff at all levels; contribute to the scientific community by publishing research in peer reviewed journals and coordinate and participate in the presentation of novel results at scientific meetings; identify, evaluate and establish new/relevant technologies/methodologies associated with organ system disease research and transgenic/pharmacologic manipulations; play a major role in coordinating and integrating GSK WW In Vivo Screening Research (i.e., merging disease models assays, Systems Biology approaches and higher capacity/throughput screening). Details: PhD in Pharmacological, Physiology, and/or

Inflammation; Industrial (R&D Pharmacology) experience > six years; background in the effects of drugs on the Immune, Cardiovascular, Central and Peripheral Nervous, Genital-Urinary and/or Gastrointestinal Systems and/or Metabolism, and on the important diseases/pathophysiologies associated with these organ systems; strong theoretical and practical knowledge of pharmacology, integrative physiology, inflammation and transgenic manipulations as related to disease and disease models; demonstrated ability to interrogate research questions from the gene to the whole organism, including background in use of bioinformatics and pathway mapping tools; demonstrated ability to actively manage and maintain focus of a multidisciplinary group; demonstrated independent research in one or more specialty areas; record of continued original publication in peer review journals; excellent written and oral communication, and interpersonal and management skills; national reputation in specialty areas. GlaxoSmithKline is dedicated to an innovative workplace and supports you with career long opportunities and learning. We offer a competitive benefits and compensation package designed to attract and retain the very best. Developing talent through equality of opportunity, we offer a competitive total compensation package as well as an environment conducive to personal and professional growth. Developing talent through equality of opportunity. No agency referrals please. For confidential consideration and efficient processing, please apply online at: http://careers.peopleclick.com/client40_gsk/BU1/EXTERNAL1931/newcandidate.asp?Source=apsorg&JobID=17097 Please only apply through this link. [M/F/D/V]

Letter to Allan Hoffman

Donald J. Marsh writes: "Thank you for the invitation to share some thoughts on the occasion of my 70th birthday. It is an interesting time. I served for 15 years as chairman of the Department of Physiology and Biophysics at the USC School of Medicine, and then was Dean of Medicine and Biological Sciences at Brown University for 10 years. In addition to a long and satisfying career in physiology I held some form of administrative responsibility for 25 years. Now I have no one to oversee but myself. It is a startling change, but more than welcome.

"With the days as administrator behind me I decided to test the question whether all those years spent running things had inflicted permanent damage to my intellect. The experiment was to attempt a return to science. Having begun this, I realized that I could not make a detached judgment about the outcome; someone else will have to decide. The referees for a couple of papers in the *AJP* have no doubt reached a conclusion already. I have returned to my interest in the regulation of renal blood flow. I no longer have a laboratory, but I appear to have retained some skills in model-



ing the problem. I benefit in this effort from several wonderful collaborators who have been very generous of their time and effort. My closest collaborators work in Denmark, and I greatly enjoy the opportunity they provide to visit and work. Our paradigm is non-linear dynamics.

"I received the most generous tribute in the form of a research symposium organized by several of my colleagues and former students. The all day affair took place in San Diego in 2003, just before the start of EB. The science was exciting, the symposium was very well attended, and it was one of the most moving experiences of my life. The speakers, many of whom had worked with me, outlined the trajectory of my career in research, which I very much enjoyed. The day reaffirmed for me the conclusion that the act of teaching research to young scientists and nurturing their careers is the most valuable contribution we

make, and the most rewarding. Later that weekend the Renal Section of the APS honored me by bestowing the Robert W. Berliner Award for Excellence in Renal Research. Bob Berliner was of course an esteemed physiologist with many accomplishments in research, and he educated a generation of future leaders in renal physiology. He was also a medical school dean, another role in which he excelled, and I enjoyed that kindred aspect of the award.

"I have few words of wisdom. Physiology has provided me with the most satisfying career I can imagine, and I recommend it without reservation! I hope to continue contributing to it. Administration is not everyone's interest, but it is important, it is important that it be well done, and with a goal in mind. I enjoyed it. I retired as dean with a sense of real achievement and progress for the Brown Medical School, and with the realization that no one understood better than I how far the institution had progressed, and what problems were left unresolved. There were many kind words of gratitude when I retired, but in the end, the most important judgment was my own.

"This letter has gone on longer than it should. I hope to see you next April at EB."

Moving?

If you have moved or changed your phone, fax or Email address, please notify the APS Membership Office at 301-634-7171 or Fax to 301-634-7241. Your membership information can also be changed by visiting the Members Only portion of the APS Website at <http://www.the-aps.org>. ❖

Bowditch Award Lecture

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

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

Four APS Members Elected to the Institute of Medicine

The Institute of Medicine of the National Academies of Science announced 65 new inductees in October. New members to this esteemed organization are elected by current members from candidates nominated for their professional achievement and commitment to service.

"It is a great pleasure to welcome these distinguished and influential individuals to the Institute of Medicine," said IOM President Harvey V. Fineberg. "Members are elected through a highly selective process that recognizes people who have made major contributions to the advancement of the medical sciences, health care, and public health. Election is considered one of the highest honors in the fields of medicine and health."

APS extends sincere congratulations to its four member inductees:

Apostolos Georgopoulos, University of Minnesota Medical School, Minneapolis;

Andrew R. Marks, Columbia University College of Physicians and Surgeons, New York City;

Michael W. Mulholland, University of Michigan, Ann Arbor;

John B. West, University of California, San Diego.

Timothy Cope: New Wright State University Chair of Anatomy and Physiology

APS member **Timothy C. Cope** has been appointed chair and professor for the Department of Anatomy and Physiology at Wright State University in Dayton, OH. He comes to Wright State from Emory University School of Medicine where he served as professor in the Department of Physiology and as an active member of the Neuroscience Program. Cope has also served as faculty in the Department of Physiology and Biophysics at Hahnemann University in Philadelphia and in the

Department of Cell Biology and Anatomy at the University of Texas Southwestern Medical Center at Dallas.

Cope's research activity focuses on spinal cord neurophysiology, particularly the recovery of neuromuscular function after nerve and spinal cord injury. He has published more than 50 research articles in refereed journals, nine book chapters, as well as editing, reviewing, and writing abstracts for books and other publications.

Cope has been an APS member since 1995 and belongs to the Central Nervous System, Cell & Molecular Physiology, and Neural Control & Autonomic Regulation sections.

RxGen Appoints Steven R. Gullans as New Chief Executive Officer

Steven R. Gullans, has joined RxGen as President and Chief Executive Officer. RxGen is a central nervous system therapeutics and CRO services company, co-founded by scientists from Yale and Harvard, which is leveraging unique preclinical research capabilities and highly reliable models of human disease to advance drug development.

"I am delighted to take on the leadership of RxGen's extraordinarily talented and accomplished team of scientists," said Gullans. "RxGen's unique portfolio of pre-clinical development assets represents a valuable resource for therapeutic discovery and validation. We plan to drive our next generation therapeutic validation platform forward, enabling us and our partners to more confidently advance therapeutics into human trials."

Prior to joining RxGen, Gullans was Chief Scientific Officer at US Genomics, Inc. where he was instrumental in expanding the application of USG's single molecule technology platform and positioning the company to capitalize on the burgeoning RNA interference, proteomics, and molecular diagnostics markets.

Gullans, a co-founder of RxGen, has over 25 years of experience as a scientist and entrepreneur in both the aca-

demic and corporate sectors. As a faculty member at Harvard Medical School and Brigham and Women's Hospital, he pioneered the application of microarrays and bioinformatics to the discovery of novel drug targets, disease biomarkers, and therapeutics. Gullans has participated in several successful start-up ventures and has advised many leading biotechnology companies, venture firms, and non-profit research groups. Gullans received a BS from Union College, a PhD in Physiology from Duke University, and postdoctoral training from Yale University.

RxGen, Inc. is a privately held biotechnology company based in New Haven, CT, focused on the development of novel therapeutics for neurodegeneration, memory loss, obesity and other central nervous system disorders. RxGen's animal models of human disease and leading genomics and bioinformatics provide the company with a powerful platform for discovering and validating novel therapeutics. For more information visit <http://www.rx-gen.com>.

Toth Named New Chief Researcher

APS member **Linda Toth**, who studies the impact of infectious diseases on sleep, is the new coordinator of research at Springfield's Southern Illinois University (SIU) School of Medicine.

"I'm really looking forward to this opportunity," said Linda Toth, named interim associate dean for research and faculty affairs at the medical school. "It will be a great chance to contribute to the SIU research program."

Toth is a veterinarian with a doctorate degree in pharmacology, the science of drugs. Moticka recruited Toth in 2000 from the infectious diseases department at St. Jude Children's Research Hospital in Memphis, TN.

Toth will continue to serve as director of SIU's 20,000-square-foot laboratory animal facility during the national search for a permanent associate dean, which could take up to a year.

"I am pleased that Linda Toth will

lead the next phases of the medical school's research efforts, particularly since she herself has been successful at securing national research grants," J. Kevin Dorsey, the medical school dean and provost, said in a news release.

Toth said her research involves studying mice to identify genes that influence sleep and fatigue.

The research eventually could enhance the treatment of humans infected with the AIDS virus or those with chronic fatigue syndrome or hepatitis, Toth said. For these individuals, getting to sleep is a problem or the sleep they do get fails to have its normal restorative effect, she said.

"It's unusual for a veterinarian to spearhead research at a medical school, Toth said, but veterinarians are becoming more popular choices because they often gain experience in handling budgets and other administrative tasks while running an animal research facility."

Farias Receives 2004 Minority Access National Alumnus Role Model Award

Congratulations to APS member **Martin Farias, III**, who is currently a postdoctoral fellow at the University of Washington. Farias was presented with a 2004 Minority Access National Alumnus Role Model Award, at the Role Models Award Banquet on September 19 in Washington, DC.

Farias has received extensive accolades as a scientist, mentor and role model from numerous instructors and colleagues. His research has been published in a number of scientific journals, including the *American Journal of Physiology*.

Originally from Texas, Farias is devoted to promoting science and physiology to minority students, particularly those of Hispanic origins. He has served as a volunteer for the Frontiers in Physiology and Explorations in Biomedicine programs by conducting classroom visits with participating middle- and high-school science teachers, and as a

"Physiologist-in-Residence" at the 2002 Science Teaching Forum. Farias is also a past recipient of the APS/NIDDK Minority Travel Fellowship Award and now serves as a mentor for the Minority Travel Fellows program.

Minority Access, Inc. is a non-profit educational organization that supports individuals, institutions, federal, state and local government agencies, and various corporations to diversity campuses and worksites by improving the recruitment, retention and enhancement of minorities.

APS Member Wins NSBRI Postdoctoral Fellowship

APS member **Andrew Judge**, (Boston University) has won the 2004 National Space Biomedical Research Institute's (NSBRI) Postdoctoral Fellowship. The fellowship is meant to encourage research in the area of health problems that occur during space exploration missions.

The prestigious two-year fellowship carries a \$40,000 award, membership in an NSBRI research team and one-to-two weeks at the NASA Johnson Space Center learning about the research facilities and program. Fellows receive the opportunity to manage their own space-related research project while continuing to work with their faculty mentors.

Judge, mentored by APS member **Susan Kandarian**, is studying the use of aspirin and non-steroidal anti-inflammatory drugs and their effects on muscle atrophy in simulated weightlessness.

Though NSBRI's research focuses on conditions encountered during space flight, their research findings will be applied to similar medical situations experienced on Earth.

Amy G. Aslamkhan is currently a Senior Research Biochemist with Merck Research Laboratories, Department of Biochemical & Investigative Toxicology, West Point, PA. Previously, Aslamkhan was a Postdoctoral Fellow with the National

Institute of Environmental Health Science, Laboratory of Pharmacology and Chemistry, Research Triangle Park, NC.

Jeffrey R. Bernard has affiliated with the Department of Kinesiology and Health Education, University of Texas at Austin, TX. Bernard was formerly with the Department of Kinesiology, California State University, Northridge, CA.

Steven L. Britton has joined the Department of Physical Medicine & Rehabilitation, University of Michigan, Ann Arbor, MI. Prior to his new position, Britton had been associated with the Department of Physiology and Molecular Medicine, Medical College of Ohio, Toledo, OH.

Natasha N. Chattergoon is currently a Postdoctoral Fellow, Heart Research Center, Oregon Health and Science University, Portland, OR. Chattergoon was previously affiliated with the Department of Pharmacology, Tulane University School of Medicine, New Orleans, LA.

Xiao Hong Duan has accepted the position of Associate Professor, Johns Hopkins University Medical School, Baltimore, MD. Formerly, Duan was affiliated with the Department of Oral Biology, The Fourth Military Medical University, Xi'an Shaanxi, China.

Andreas Fahlman, a Postdoctoral Fellow, has joined the Department of Zoology, The University of British Columbia, Vancouver, BC, Canada. Fahlman had been affiliated with SUNY at Buffalo School of Medicine, Department of Biomedical Sciences, Buffalo, NY.

Yuansheng Gao is currently Professor, Department of Physiology and Pathophysiology, Peking University Health Science Center, Beijing, Peoples Republic of China. Gao was formerly affiliated with the Department of Pediatrics, Harbor-UCLA Medical Center, Torrance, CA.

Richard R. Gonzalez is currently President of Bio-Tor, Inc., an Environmental Consultant Company

in San Lorenzo, NM. Previously, Gonzalez was Division Director of the Biophysics Modeling Division, US Army Institute of Environmental Medicine, Natick, MA.

Laura Veronica Gonzalez-Bosc has accepted the position of Assistant Professor, Department of Cell Biology and Physiology, University of New Mexico, Albuquerque, NM. Gonzalez-Bosc was formerly with the Department of Pharmacology, University of Vermont, Burlington, VT.

Shawn G. Hayes recently joined the Division of Cardiovascular Medicine, University of California, Davis School of Medicine, Davis, CA, as Assistant Adjunct Professor. Prior to his new assignment, Hayes was a Postdoctoral Fellow, Center for Neuroscience, University of California, Davis, CA.

Tyson L. Hedrick has affiliated with the Department of Biology, University of Washington, Seattle, WA, as a Postdoctoral Researcher. Hedrick was previously a student with the Department of Organismic & Evolutionary Biology, Harvard University, Bedford, MA.

Kyle Kenji Henderson, a Postdoctoral Fellow, has affiliated with Loyola University Medical Center, Maywood, IL. Henderson was previously associated with the University of Missouri-Columbia, Department of Veterinary Biomedical Science, Columbia, MO.

Judith Nicoll Hudson has accepted the position of Senior Lecturer, The Queen Elizabeth Hospital, Woodville, S. Australia. Hudson was previously a Senior Lecturer, Peninsula Medical School, St. Luke's Campus, Institute of Clinical Education, Exeter University, Exeter, England.

Brian E. Hunt is currently Assistant Professor, Department of Exercise Science, University of Massachusetts, Amherst, MA. Hunt was formerly Instructor, Research and Training Institute, Hebrew Rehabilitation Center for the Aged, Boston, MA.

Kojiro Ide joined the Department of Sports and Health Science, Fukuoka University, Fukuoka, Japan. Ide previ-

ously was affiliated with the Department of Physiology and Biophysics, University of Calgary, Calgary, Canada.

Daniel Johnston has affiliated with the University of Texas at Austin as Professor, Section of Neurobiology, Austin, TX. Johnston was previously affiliated with the Division of Neuroscience, Baylor College of Medicine, Houston, TX.

Delbert L. Kilgore has recently associated with the Department of Biological Sciences, Northern Arizona University, Flagstaff, AZ. Prior to his new position, Kilgore had been affiliated with the Division of Biological Sciences, University of Montana, Missoula, MT.

Lauren Gerard Koch, an Assistant Professor, has moved to the Department of Physical Medicine and Rehabilitation, University of Michigan, Ann Arbor, MI. Koch had previously held a position with the Department of Physiology and Molecular Medicine, Medical College of Ohio, Toledo, OH.

Olga A. Kovalenko recently joined the Obstetrics and Gynecology Department, The University of Medicine and Dentistry of New Jersey, Newark, NJ. Kovalenko had been affiliated with the Department of Biological Sciences, Michigan Technological University, Houghton, MI.

Romulo Leite, Research Scientist, moved to the Department of Physiology, Medical College of Georgia, Augusta, GA. Leite was formerly associated with the Department of Pharmacology, Instituto De Ciencias Biologicas, University Fed De Minas Gerais, Belo Horizonte, Brazil.

J. Antonio G. Lopez has affiliated with Northern California Cardiology Associates, Placerville, CA. Previously, Lopez had been associated with the Zavaro Cardiovascular Institute, La Mesa, CA.

Dave A. MacLean has moved to the Northern Ontario School of Medicine, Laurentian University Campus, Sudbury, Canada. MacLean was pre-

viously affiliated with Kent State University School of Exercise, Leisure and Sport, Kent, OH.

Shyama M.E. Masilamani has accepted the position of Assistant Professor, Division of Nephrology, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA. Masilamani was formerly a Staff Scientist with the National Institutes of Health and NHLBI, Laboratory of Kidney and Electrolyte Metabolism, Bethesda, MD.

Christopher Paul O'Donnell has been appointed Associate Professor, University of Pittsburgh School of Medicine, Pittsburgh, PA. Previously, O'Donnell was an Assistant Professor, Department of Anesthesiology, Johns Hopkins University School of Medicine, Asthma and Allergy Center, Baltimore, MD.

Richard Oeckler has affiliated with the Department of Internal Medicine, Mayo Clinic, Rochester, MN. Formerly, Oeckler was associated with the Department of Physiology, New York Medical College, Valhalla, NY.

Tracey Anne Phillips has recently associated with the University of Liverpool, Edinburgh, Scotland. Phillips was previously associated with the Center for Exercise Science, University of Florida, Gainesville, FL.

Philip Posner has accepted the position of Scientific Advisor, Oak Ridge Associated Universities, Arlington, VA. Posner had previously been Professor and Administrator, Florida State University College of Medicine, Tallahassee, FL.

Stephen Bennett Ruble recently joined the Guidant Corporation of St. Paul, MN. Ruble was formerly affiliated with the Exercise Science and Sports Medicine Department, Samford University, Birmingham, AL.

Sueko Sagawa is currently Professor, National Institute of Fitness and Sports, Department of Sports Life Style Management, Kanoya, Japan. Sagawa was formerly Associate Professor, Department of

Physiology, University Occupational and Environmental Health, Kitakyushu, Japan.

David K. Spierer has affiliated with Teachers College, Columbia University, New York, NY. Spierer was previously associated with the Department of Exercise Physiology, Coler Goldwater Specialty Hospital and NF, Roosevelt Island, NY.

Jonathan Anthony W. Stecyk is currently with the Department of Zoology, University of British Columbia, Vancouver, BC, Canada. Stecyk was formerly affiliated with the Department of Biological Sciences, Simon Fraser University, Burnaby, BC, Canada.

Javier E. Stern recently joined the Department of Psychiatry, University of Cincinnati, Cincinnati, OH, as an Assistant Professor. Stern was formerly connected with the Department of Pharmacology and Toxicology, Wright State University, Dayton, OH.

Elena Volpi has joined the Division of Geriatric Medicine, University of Texas Medical Branch, Galveston, TX. Volpi formerly was associated with the Division of Endocrinology and Diabetes, University of Southern California, Los Angeles, CA.

Hal Fong Yee has been appointed Associated Professor, Chief of GI and Hepatology, San Francisco General Hospital, University of California, San Francisco, CA. Yee was previously Assistant Professor, affiliated with UCLA, Departments of Medicine and Physiology, Los Angeles, CA.

Ming-Jiun Yu is a Visiting Fellow with the Laboratory of Kidney and Electrolyte Metabolism, National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, MD. Yu was previously associated with the Department of Biomedical Sciences, Cornell University, Ithaca, NY.

Jason X. J. Yuan recently associated with the Medical Teaching Facility, University of California, San Diego School of Medicine, La Jolla, CA. Yuan was formerly affiliated with the University of California, San Diego Medical Center, San Diego, CA.

Dion H. Zappe has been appointed Associate Director, Clinical Research, Novartis Pharmaceuticals, US Medical Affairs, East Hanover, NJ. Zappe was formerly Regional Scientific Director, Scientific Operations, Novartis Pharmaceuticals, Medway, MA. ❖

Physiology in Perspective Walter B. Cannon Memorial Lecture

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

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

Advertise your job vacancy to over 10,000 members and subscribers!

Ads are accepted for either positions available or positions wanted under all categories. The charge is only \$75. All ads are also posted on the APS Career Opportunity Web page upon receipt for a three month period.

If you would like to have your ad listed in *The Physiologist* or on the APS Career Opportunities Web page (<http://www.the-aps.org/careers/careers1/posavail.htm>),

the following items are needed: a copy of the ad, the name of a contact person, and either a purchase order number, credit card number (with expiration date and name of cardholder) or billing address. Send the information to Linda Dresser (Email: ldresser@the-aps.org; Tel: 301-634-7165; Fax: 301-634-7241).

Body Heat: Temperature and Life on Earth

Mark S. Blumberg
Harvard University Press
240 pp., \$15.95 paper

The author has done an admirable job integrating physical science, physiology of temperature regulation and energy metabolism, comparative animal physiology, and evolutionary biology to illustrate the permeating effects of temperature against Life on Earth. He gave clear explanations on the principles of heat flow and thermodynamics, how temperature affects life processes, how animals select and regulate preferred body temperatures in nature and survive the utmost extreme conditions, and how the shelter of civilization has on the one hand enabled the expansion of human species to all corners of the globe but

cruelly remind us on the other hand that when absent, how meager and vulnerable the human species really is when confronted by seasonal cold and heat. To the lay people, this book is an excellent introduction, integration and illustration of how temperature affects all life forms on earth.

This book is also of value to specialists in biology even those in thermal biology. The author was able to explain difficult concepts clearly with good everyday relatable examples. The evolutionary theme is clear and the illustrated biodiversity consequent to thermal selection is wide and fascinating. Although many students may have read or studied thermoadaptation in animals and plants, this book nicely integrated some of the most exotic examples to demonstrate the power of selection and adaptation, both in physiology and behavior. To a potential doctoral degree candidate, this

book could be a timely review before the dreaded candidacy or qualifying examination.

For future edition updates and improvements, it would be a plus if each specific examples can be appropriately referenced (rather than listing selected references after each chapter). This will clarify which work is done by the author and his students/colleagues and which is done by other scientists who share similar research interests.

I enjoyed reading the book. I congratulate the author for having communicated what he intended to with rich materials and flowing lucidity. ❖

Reviewed by:
Lawrence Wang
University of Alberta
Edmonton, Alberta, Canada

Books Received

Allostasis, Homeostasis, and the Costs of Physiological Adaptation.
Jay Schulkin, (Editor).
New York: Cambridge Univ. Press, 2004, 372 pp., illus., index, \$100.00.
ISBN: 0-521-81141-4.

Animal Physiology: From Genes to Organisms
Lauralee Sherwood, Hillar Klandorf, and Paul H. Yancey.
Belmont, CA: Thomson Brooks/Cole, 2005, 759 pp., illus., index, \$106.95.
ISBN: 0-534-55404-0.

Flight Surgeon & Intern.
Francis John Haddy, MD, PhD.
Baltimore, MD: Noble House, 2004, 278 pp., illus., \$23.95.
ISBN: 1-56167-859-7.

Principles of Hormone/Behavior Relations.
Donald W. Pfaff, M. Ian Phillips, and Robert T. Rubin.
New York: Elsevier Press, 2004, 335 pp., illus., index, \$49.95.
ISBN: 0-12-553149-4.

The American Physiological Society Medical Physiology Curriculum Objectives

<http://www.the-aps.org/education/MedPhysObj/medcor.htm>
Download in HTML or PDF format

NOW AVAILABLE IN PRINT FORM; UP TO 15 COPIES FREE PER DEPARTMENT.

The **Medical Physiology Curriculum Objectives** is a joint project of The American Physiological Society and the Association of Chairs of Departments of Physiology.

APS Education Office
9650 Rockville Pike, Bethesda, MD 20814-3991
Phone: 301-634-7132; Fax: 301-634-7098; Email:
education@the-aps.org; <http://www.the-aps.org/education.htm>

21st Annual Computed Body Tomography 2005: The Cutting Edge

Date: February 17-20, 2005

Sponsor: The Johns Hopkins University School of Medicine, The Russell H. Morgan Department of Radiology and Radiological Science

Location: Disney Yacht and Beach Club Resort, Orlando, FL

This seminar, for the radiologist, will provide a comprehensive review of recent advances in computed body tomography. A series of focused lectures has been designed to concentrate on specific topics in depth. Participants will have the opportunity to expand their knowledge of the latest concepts in multidetector-row CT, CT angiography, the value of high resolution CT in the chest, the uses of CT

in the GI tract, clinical application of musculoskeletal CT, cardiac CT, and PET/CT in oncology. There will be time for questions and discussion. Optional hands-on workstation training will be available.

Participants will expand their knowledge in: the latest concepts in the chest and cardiac CT; the newest applications of multidetector/multi-slice CT; the clinical applications of CT angiography (CTA); the role of CT in GI pathology, including virtual colonoscopy; the latest concepts in liver and renal imaging; and the use of workstations for CT angiography.

The Johns Hopkins University School of Medicine is accredited by the

Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. The Johns Hopkins University School of Medicine takes responsibility for the content, quality and scientific integrity of this CME activity.

Fees: \$575 Physicians; \$525 Residents, Fellows and Technologists.

Contact: Johns Hopkins University School of Medicine, Conference Coordinator, Office of Continuing Medical Education, Turner 20, 720 Rutland Avenue, Baltimore, MD 21205-2195; Tel: 410-955-2959; Fax: 410-955-0807; Email: cmenet@jhmi.edu; <http://www.hopkinscme.net>. ❖

Fogarty International Center/Ellison Medical Foundation Awards

Would you like a unique chance to experience clinical research training in a developing country? Would you like to work with a strong team of mentors and colleagues on important problems that advance people's health?

The National Institutes of Health's (NIH) Fogarty International Center (FIC) with support from The Ellison Medical Foundation, is offering a one year clinical research training experience for graduate level US students in the health professions. This is an opportunity for highly motivated individuals to experience mentored research training at top-ranked NIH-funded research centers in developing countries. Africa, Asia and The

Americas are regions of the world that, if accepted, you may find yourself experiencing.

This program is designed primarily for students meeting all of the following qualifications:

A strong interest in, and potential for, a career in international health activities and/or clinical research.

Advanced standing in a US medical or osteopathic school; or enrollment in a doctoral level program at a US school of public health, nursing or dentistry. Applicants must have strong academic records and must be US citizens or permanent US residents. Medical and osteopathic students must have completed their basic science courses and one year of clinical

clerkship; public health doctoral students must have completed their coursework and passed their qualifying exams prior to the beginning of the fellowship.

Support of their home academic institution, including a committed mentor.

Each Fellowship will be for a one year period. The term will begin with an intensive orientation program on the NIH campus in Bethesda, MD in July 2005. This will be followed by approximately 10+ months of intense research training at the foreign site.

To access the application and to learn more, please visit <http://www.aamc.org/overseasfellowship>. Applications are due January 7, 2005. ❖

Lasker Foundation Accepting Award Nominations

The Albert and Mary Lasker Foundation is currently accepting nominations for Awards in the following categories:

- Basic Medical Research
- Clinical Medical Research
- Public Service

The Lasker Awards Program was

established in 1944. Since then, 70 Lasker Laureates have later won the Nobel Prize. Additional information on previous Lasker Laureates can be found online at our web site, <http://www.laskerfoundation.org>.

Nominations for the 2005 Lasker Awards must be received by the

Foundation no later than **February 1, 2005**. Complete criteria and instructions can be found in our nomination packets, which can be downloaded from our web site, <http://www.laskerfoundation.org>. ❖

50th Annual Topics in Clinical Medicine

Date: May 2-6, 2005

Sponsor: The Johns Hopkins University School of Medicine, Department of Medicine

Location: Thomas B. Turner Building, Johns Hopkins University School of Medicine, Baltimore, MD

This five-day course is designed for physicians and other professionals primarily interested in internal medicine. The topics will deal with recent and significant advances in areas of general clinical interest. They will be related to the diagnosis and management of disease and, wherever possible, will be illustrated by clinical

demonstrations. The program will be a varied one. In addition to short, illustrated discussions of specific disease problems, there will be conferences and symposia devoted to important, broad areas of clinical medicine.

Accreditation and Credit Designation Statements: The Johns Hopkins University designates this educational activity for a maximum of (to be determined) Category 1 credits toward the AMS Physician's Recognition Award. Each Physician should claim only those credits that he/she actually spent in the activity. The American Academy of Physician

Assistants accepts AMA Category 1 CME credit for the PRA from organizations accredited by ACCME.

Fees: \$800 Physicians; \$650 Residents, Fellows, Physician Assistants, Nurse Practitioners on or before March 15, 2005.

Contact: Johns Hopkins University School of Medicine, Conference Coordinator, Office of Continuing Medical Education, Turner 20, 720 Rutland Avenue, Baltimore, MD 21205-2195; Tel: 410-955-2959; Fax: 410-955-0807; Email: cmenet@jhmi.edu; <http://www.hopkinscme.net>. ❖

WSU Spokane to Offer New Degree in Exercise Physiology and Metabolism

Washington State University Spokane has become one of a few universities in the nation to offer an interdisciplinary degree integrating concepts and principles of exercise science and nutrition.

The Bachelor of Science in exercise physiology and metabolism focuses on biological interrelationships between exercise and nutrition, as well as social/psychological aspects on exercise and nutrition and the effect of these interactions on the health of individuals.

According to program faculty members, the curriculum is distinctive because the emphasis of the degree is on integrating exercise and nutrition effects. Most other programs that offer some content from each of the two areas typically offer a bachelor's degree in one of the two disciplines with a minor or certificate in the other, rather than the integrated curricular approach available at WSU Spokane.

The program content examines multiple influences on individuals' health—biological, nutritional, environmental, clinical and social/psychological—and how and why the human body functions and responds in certain ways to various exercise and nutri-

tional stimuli. Students learn to apply classroom concepts to real working situations by participating in a practicum that is part of the curriculum and by doing a semester-long worksite internship to prepare them for the demands of the workplace.

Faculty are working on the program curriculum for submission to the American Dietetic Association for accreditation. If approved, students in the program will acquire a strong foundation in the knowledge, skills, and abilities required for competencies as specified by the American College of Sports Medicine, and will be eligible to take the certification exam as an exercise specialist after completing this degree.

Healthcare and medical leaders in Spokane believe the degree fills a critical need.

"The combined nutrition and exercise science program makes sense from a health care perspective. Both components are critical aspects of lifestyle modification, which we promote for managing many health concerns. In particular, obesity, diabetes, high blood pressure, cardiovascular diseases, chronic kidney disease and cancer are areas where this expertise

would be helpful," said Katherine R. Tuttle, director of research for The Heart Institute of Spokane, and professor of basic medical sciences, WWAMI program, WSU.

Ryland P. "Skip" Davis, CEO, Sacred Heart Medical Center, said, "Providence Health Care and Sacred Heart Medical Center, as a leading health care provider, strongly supports a multidisciplinary team approach to health care services. The curriculum of this program will enhance the nutrition education of the clinical specialist in exercise science, and enhance their ability to function effectively as a team member for prevention and rehabilitation."

Students interested in pursuing the degree are encouraged to contact program faculty for advising on prerequisite courses. Students may begin their studies at WSU Pullman, with the final two years at WSU Spokane, or may enroll in their freshman and sophomore years at another university or community college and transfer to WSU Spokane. For more information, contact Linda Massey, massey@wsu.edu, 509-358-7621. ❖

November 11-13

IV International Symposium on Intraoperative Neurophysiological monitoring in Neurosurgery, New York, NY. *Information:* Tel.: 212-870-9684; Fax: 212-870-9690; Email: gespana@bethisraelny.org or vdeletis@bethisraelny.org; Internet: <http://www.neurophysiology.org>.

2005

February 12-16

The Biophysical Society 49th Annual Meeting, Long Beach, CA. *Information:* Internet: <http://www.biophysics.org>.

February 22-27

14th International Hypoxia Symposium, Chateau Lake Louise, Alberta, Canada. *Information:* <http://www.hypoxia.net>.

March 9-13

7th International Conference AD/PD 2005, Sorrento, Italy. *Information:* Conference Secretariat, 7th AD/PD 2005, Kenes international, 17 Rue du cendrier, P.O. Box 1726, CH-1211 Geneva 1, Switzerland. Tel.: +41 22 908 0488; Fax: +41 22 732 2850; Email: adpd@kenes.com; Internet: <http://www.kenes.com/adpd>.

March 18-19

2005 Gulf Coast Physiological Society Meeting, New Orleans, LA. *Information:* <http://www.the-aps.org/chapters/gulf/index.htm>.

March 28-30

Biophysical and Biomedical Adaptation and Bioinspired Engineering, California Institute of Technology, Pasadena, California. *Information:* <http://www.its.caltech.edu/~iupscit/>.

March 29-30

New Directions in Exercise Physiology, Official satellite conference to the 35th Congress of Physiological Sciences, San Diego, CA. *Information:* Internet: <http://www.exercisephysiology.elsevier.com>.

March 29-31

The 10th International Proton Transport Conference, Cell and Developmental Physiology & Disease, San Diego, CA. *Information:* Internet: <http://proton.berkeley.edu/>.

March 31-April 5

35th Congress of the International Union of Physiological Sciences (IUPS), San Diego, CA. *Information:* Internet: <http://www.iups2005.org>.

May 9-13

The Association Francaise contre les Myopathies Scientific Meeting, Nantes, France. *Information:* Internet: <http://www.myology2005.com>.

June-August

FASEB Summer Research Conferences, Colorado, Georgia, Vermont, Arizona, and Italy. *Information:* FASEB Summer Research Conferences, 9650 Rockville Pike, Bethesda, MD 20814. Tel: 301-634-7010; Fax: 301-634-7007. Internet: <http://src.faseb.org/>.

July

4th Meeting of The Mammalian Myocardium, University of Leeds, United Kingdom. *Information:* Internet: <http://www.leeds.ac.uk/mm2005/>.

July 3-7

Connect 2005, The 12th RACI Convention, Sydney, Australia. *Information:* <http://www.pco.com.au/connect2005/>.

September 11-14, 2005

Ninth International Conference on Endothelin (ET-9), Park City, UT. *Information:* Internet: <http://www.int.med.utah.edu/et9/>.

September 17-21

15th Annual Congress of the European Respiratory Society (ERS), Copenhagen, Denmark. *Information:* Internet: <http://www.ersnet.org>.