



*Integrating
the Life Sciences
from Molecule to
Organism*

Inside

**APS 2002 Officers
and Standing
Committees**
p. 392

**APS Conference
Reports**
p. 400

**Late Breaking
Abstract
Submission Form**
p. 412

**APS Launches New
Legislative Action
Center**
p. 415

**Obituary
Robert M. Berne
(1918-2001)**
p. 435

The Physiologist

Volume 44, Number 6

December 2001

Passing the Flag - From Christchurch to San Diego! Martin Frank

On Friday, August 31st, the XXXIV International Congress of Physiological Sciences closed with the continuation of a tradition initiated by Osmo Hanninen at the 1989 IUPS Congress in Helsinki. The tradition is to pass the IUPS flag from the country hosting the current Congress to a representative of the country hosting the next Congress. In this case, the IUPS flag was passed from Anthony Macknight, organizer of the New Zealand Congress to Virginia Huxley, Chair of the US National Committee of the IUPS (USNC), the official host of the 2005 Congress. By accepting the flag, the US physiological community had agreed to host the XXXV IUPS Congress.

While initial plans called for the 35th Congress to be held during the summer in Washington, DC, constructive discussion within the APS Council and USNC resulted in a decision to propose shifting the meeting to March 31-April 5, 2005 to be held in conjunction with the Experimental Biology meeting in San Diego, CA. It was the opinion of both groups that holding the meeting in conjunction with the EB meeting would serve to strengthen both meetings and provide the IUPS Congress with advantages not available with a free standing Congress. The EB meeting already attracts nearly 3,000 physiologists who submit over 2,500 physiologically related abstracts for presentation.

In addition, a number of our EB sister societies, such as pharmacology, pathology, anatomy, biochemistry, nutrition, and immunology, offer sessions of interest to the physiological community, contributing to the scientific excellence of the 2005 Congress. Lastly, by meeting in conjunction with the EB meeting, Congress regis-

trants will be able to avail themselves of an extensive exhibit program with over 500 exhibit booths. These advantages were important factors that led to the approval of the changes in venue and date by both the IUPS Council and IUPS General Assembly (with a vote of 71-3).

In planning for the 2005 Congress, we should learn from the organizers of previous Congresses. The US has hosted two previous Congresses, in 1929 and 1968. For the first one, the American Physiological Society issued an invitation to physiologists worldwide to attend the XIII Congress held in Boston from August 19-23, 1929. As one would expect, international travel was not the easiest thing during that period of time. To facilitate their participation, a large contingent of European physiologists joined together to travel on the Minnekahda. An additional smaller contingent made the Atlantic crossing on the France. Of the approximately 1,700 people who attended the Congress, nearly 700 of the registrants were from countries other than the United States. In 1968, the American Physiological Society hosted the XXIV Congress in Washington, DC. Attendance was considerably better than in 1929, as airline travel had become more common. As a result, approximately 3,700 scientists attended the Congress, of which 1,200 were from a total of 56 countries other than the US.

Unfortunately, we do not have sufficient documentation of the lessons learned from those two Congresses. Instead, the APS and its sister societies within the USNC of the IUPS—Society for Neuroscience, Society of General Physiologists, Microcirculatory Society, Biomedical

(continued on page 389)

The Physiologist

Volume 44 Number 6

December 2001

Contents

Passing the Flag - From Christchurch to San Diego <i>Martin Frank</i>	387
APS News	
2002 APS Committees	392
Membership	
New Regular Members	396
New Student Members	397
New Affiliate Members	398
APS Conference Reports	
Cellular and Molecular Physiology of Sodium-Calcium Exchange	400
Genome and Hormones: An Integrative Approach to Gender Differences in Physiology	402
Education	
APS/NIDDK Minority Travel Fellows Attend 2001 APS Conferences	404
Experimental Biology 2002	
Distinguished Lectureships	406
Tentative Schedule of Sessions	408
Featured Topics	411
Late Breaking Abstract Submission Form	412
Public Affairs	
Are You Giving Money to Undermine Medical Research?	414
APS Launches New Legislative Action Center	415
EB Features IACUC Session	415
Congress Still Working on FY 2002 Funding	415
Bills Would Impose Rigid Standards for Dog Socialization	416
ACLAM Foundation Announces 2001 Awards	416
Lasker Award Nominees Sought	417
President Signs Antiterrorism Bill: Could Have Implications For Medical Research	417
Positions Available	418
News From Senior Physiologists	430
Book Reviews	432
Books Received	434
Obituary	
Robert M. Berne	435
People & Places	
Skorton President of AAHRPP Board of Directors	436
APS Member Elected to Institute of Medicine	437
Announcements	
Third Annual Bristol-Myers Squibb Award for Distinguished Achievement in Metabolic Research	439
Scientific Meetings and Congresses	440
APS Membership Application	441

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 \$45.00; institutions \$70.00. Nonmembers in Canada and Mexico: individuals \$50.00; institutions \$75.00. Nonmembers elsewhere: individuals \$55.00; institutions \$80.00. Single copies and back issues when available, \$15.00 each; single copies and back issues of Abstracts issues when available, \$25.00. Subscribers to *The Physiologist* also receive abstracts of the Conferences of the American Physiological Society.

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

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Printed in the USA

Passing the Flag

Engineering Society, and the Society for Integrative and Comparative Biology - will need to draw upon the experiences of the organizers of the last several Congresses which were held in New Zealand (2001), Russia (1997), United Kingdom (1993), Finland (1989), and Canada (1986). One of the primary lessons learned from all of these Congresses is to create an environment in which the scientists from the host country and the visiting scientists can mingle and interact in a welcoming environment. In this regard, the social aspects of an international congress are as important as the scientific aspects. The scientific program is the reason to attend the international Congress, the social activities and events are what we remember the most.

The organizers of the New Zealand Congress managed to make the event both a scientific and social success. The opening Maori ceremony included native greetings and dancing that not only featured the Maori people but also included the participation of IUPS and international dignitaries. The ceremony was followed by a reception in the Christchurch Town Hall that included ample food and local spirits. This event was included as part of the registration fee. Tony Macknight also arranged to have internationally recognized pianist, Andras Schiff, perform during the Congress. The evening concert proved

to be a highlight of the Congress, but one that was open only to those who had purchased a ticket. Similarly, the closing banquet was only open to those who had purchased a ticket. The event included a buffet dinner and open bar, along with native dancers from the Cook Islands. For those who were not selected to demonstrate their ability to dance in the Cook Island style, there was a more traditional band playing later in the evening. It is the hope of the organizers of the XXXV Congress, that all attendees will be able to attend both the opening and closing events as part of their Congress registration fee.

Scientifically, the organizers of the scientific program for the New Zealand Congress had to contend with the loss of their leader, Rainer Greger, who was struck by lightning while riding his bicycle in a thunderstorm. The organizers were challenged on several fronts to make the Congress a success. Tony Macknight took on the responsibility of serving as the Chair of the International Scientific Program Committee and, with the assistance of the ISPC and the New Zealand organizing committee, created a scientific program worthy of Greger and of the physiological community.

One of the early challenges was creating a scientific program that would encourage scientists from the Northern Hemisphere to travel "down under" to

attend the Congress. In order to encourage scientists to explore the beauties of New Zealand and Australia, the organizers scheduled nearly 40 satellite meetings throughout the area. Unfortunately, only about 35% of the satellite attendees made it to the main Congress with the greatest turnout being from those satellite meetings held in New Zealand. It is for that reason that the organizers of the 2005 Congress in San Diego have decided to have only a limited number of satellite meetings restricted to the greater San Diego metropolitan area. In that way, it will be relatively easy for the satellite attendees to participate in the Congress.

The XXXIV Congress provided the attendees with some outstanding keynote lectures, starting with The President's Lecture presented by Jared Diamond and ending with The Fenn Lecture presented by Salvatore Moncada. In general, there were three to four Distinguished Lectures presented each day, including a newly initiated Distinguished Lecture to honor a former APS President and recent IUPS First Vice-President, Ernst Knobil. The Distinguished Lectures provided registrants with an opportunity to hear outstanding scientists discuss their research and comment on the state of research in their fields. The Distinguished Lecture format is one that will be continued at the XXXV



A banner welcomes Congress attendees.



Maori people demonstrate their dancing abilities at the opening of the IUPS New Zealand Congress.

Passing the Flag



Sue Sabur, APS Marketing Manager, Margaret Reich, APS Director of Publications, and Martin Frank, APS Executive Director, work the APS booth together.



Native Cook Island dancers demonstrate their abilities at the closing banquet of the IUPS New Zealand Congress.

Congress in San Diego.

In order to encourage the participation of both local and foreign physicians in the IUPS Congress, the New Zealand organizing committee arranged to have several continuing medical education (CME) breakfasts, sponsored by pharmaceutical companies, held each day. These events proved to be a success. The organizers of the San Diego Congress will be exploring the possibility of holding similar sessions and plans to offer CME credit not only for the CME Breakfasts, but also for all the scientific sessions of the Congress.

The New Zealand Congress organizers created a new meeting format called *synthesia*, with the goal of synthesizing the presentations from the various satellite meetings into a continuum that reflected the meeting theme, "from Molecule to Malady." Many of the *synthesia* succeeded in fulfilling the goals of the format. For those that did not, it was a result of speakers not taking the time to reflect on the format's goals as they prepared their talks. In those cases, the sessions proved to be more traditional symposia.

The NZ Congress organizers took advantage of current technology in the development of the meeting. Congress information was available on the IUPS 2001 web site and authors could both register and submit abstracts through

the site. The Congress program was available online and on CD-ROM. Congress registrants received upon their arrival in Christchurch an abbreviated printed program and a CD-ROM containing full program information and the abstracts of each oral and poster sessions. The organizers also arranged for about 100 Compaq and Mac computers to be available on-site for checking of the program and abstracts, as well as for registrants to access their e-mail. The hard-copy program was eliminated, and some of the registrants seemed to miss it. By the time we reach the 2005 Congress in 2005, advances in technology may take us to unforeseeable modes of program "printing" and dissemination. The 2005 IUPS National Organizing Committee will learn from the New Zealand Congress and strive to present the program materials in the best possible format.

As stated earlier, the IUPS Congress in San Diego will benefit from many of the advantages of the EB meeting. Most importantly, the close proximity of colleagues from related disciplines will enhance our ability to fulfill the theme of the Congress, "From Genomes to Functions." Throughout the meeting, efforts will be made to translate discoveries from multiple genomes into an understanding of physiological function. The format will also foster

enhanced visibility of the tools of physiology in this time of transition from the genome to the *physiome*.

The abstracts submitted to the Congress will be presented in poster sessions in the San Diego Convention Center in close proximity to the extensive exhibit program. Registrants interested in abstracts submitted to EB sessions will be able to visit them in the same exhibit area. Those abstracts selected for oral presentation, as well as all the symposia and distinguished lectures, will be presented in session rooms at one of the hotels in close proximity to the San Diego Convention Center. In addition, Congress registrants will be able to attend the sessions of the societies participating in the EB meeting, no matter if the sessions are presented in the Convention Center or another meeting hotel. The wealth of scientific opportunities will be immense.

To ensure that all Congress registrants will be able to avail themselves of all the offerings, they will be provided with a program for the IUPS Congress and for the EB meeting. In addition, abstracts for both meetings will be readily available on CD-ROM and online. The IUPS Congress Organizing Committee hopes to create a scientific program that draws upon the best of physiology and encourages registrants

Passing the Flag

to take advantage of the diversity of science presented within the EB meeting.

The broad representation of international scientists in the Congress is a unique opportunity for students and post-doctoral fellows to meet colleagues from other countries and to develop collaborative interactions. The Congress will also encourage the participation of students and post-doctoral fellows by scheduling special sessions designed to meet their needs and by offering an extensive travel award program. In addition, the National Organizing Committee plans to encourage the participation of junior scientists from outside the US, with an emphasis

on physiologists from developing countries, by allocating at least \$200,000 in travel awards for their support.

It is too early to define the scientific program for the Congress or to share information about the social aspects of the meeting. However, the IUPS Congress National Organizing Committee chaired by Shu Chien and the US Scientific Program Committee chaired by Walter Boron have already started to plan for the Congress. It is their goal to make the 2005 Congress a World Congress of Physiology, bringing physiologists from all over the world together in San Diego. It is sincerely hoped that you will be one of

those in attendance.

I urge you to keep abreast of plans for the XXXV IUPS Congress by reading future issues of *The Physiologist* and by visiting the Congress web site (<http://www.iups2005.org>). In the meantime, please mark the dates on your calendar. The APS and our sister societies in the US National Organizing Committee look forward to seeing you in San Diego from March 31-April 5, 2005 for the XXXV International Congress of Physiological Sciences. Your participation will be very important in making the 2005 Congress a most memorable one!

2002 Officers and Standing Committees

APS Council

Officers

John E. Hall, President (2002)
Barbara A. Horwitz, President-Elect (2002)
Gerald F. DiBona, Past President (2002)

Councillors

Kim E. Barrett (2004)
Hannah V. Carey (2002)
Douglas C. Eaton (2003)
Joseph R. Haywood (2004)
Steven C. Hebert (2003)
Jo Rae Wright (2002)

ex officio Members

Robert G. Carroll, Education (2003)
Mordecai P. Blaustein, Finance (2002)
Curt D. Sigmund, Joint Program (2004)
Dale J. Benos, Publications (2004)
Celia D. Sladek, Section Advisory (2002)

Society Standing Committees

Animal Care and Experimentation

Maintains and updates the APS "Guiding Principles in the Care and Use of Animals," provides consultation regarding animal experimental procedures and care, and keeps abreast of legislation and new developments in animal models for student teaching and alternatives for animal usage.

John N. Stallone, Chair (2003)
Michael W. Brands (2003)
Kurtis G. Cornish (2004)
David R. Gross (2004)
Kevin C. Kregel (2002)
Elizabeth M. Wagner (2002)
Matthew Walker, student member (2002)
William T. Talman, *ex officio* (2003)
Alice Ra'anana, *ex officio*

Awards

Oversees the award programs of the Society to ensure uniformity and conformity with the goals of APS, investigates new means of funding for the APS awards program, and selects Research and Teaching Career Enhancement Awardees, Wang, Mandel, and Guyton Awardees, and APS Postdoctoral Fellowship Awardees.

Patricia Preisig, Chair (2004)
Margaret Colden-Stanfield (2002)
Debra I. Diz (2003)
Pradeep K. Dudeja (2004)
Walter N. Durán (2003)
Ronald H. Freeman (2003)
Stephen A. Kempson (2002)
Bruce G. Lindsey (2002)
Lori L. McMahan (2004)
J. Michael Overton (2002)
D. Eugene Rannels (2002)
Janice H. Urban (2002)
Pamela J. Gunter-Smith, *ex officio* (2004)
Carole M. Liedtke, *ex officio* (2004)

Career Opportunities in Physiology

Provides Council with information regarding availability and needs for appropriately trained physiological personnel and recommends measures to assure appropriate balance in the supply and demand for physiologists.

Francis L. Belloni, Chair (2003)
John H. Johnson (2002)
Karen D. Mittleman (2003)
James M. Norton (2004)
Kathleen P. O'Hagan (2003)
Darryl R. Peterson (2002)
David M. Pollock (2003)
Deborah A. Scheuer (2004)
Pamela J. Gunter-Smith, *ex officio* (2004)
Marsha Lakes Matyas, *ex officio*

Committee on Committees

Serves as an advisory committee to Council to make recommendations for nominees to the standing committees and reviews charges of the various committees regarding overlapping responsibilities.

Hannah V. Carey, Chair (2002)
Kim E. Barrett (2004)
Pamela K. Carmines (2002)
Stephen E. DiCarlo (2004)
Gregory D. Fink (2003)
Joseph R. (J.R.) Haywood (2003)
Alicia A. McDonough (2004)
Ivan F. McMurtry (2004)
Gerald A. Meininger (2003)
Timothy I. Musch (2004)
Johnny R. Porter (2002)
Mrinalini C. Rao (2003)
Michele G. Wheatly (2003)
Bill J. Yates (2002)
Linda Comley, *ex officio*

Communications

Formulates policies for the promotion of physiology and the Society's activities, works with the Communications Specialist, communications firm, and appropriate committees to help identify media-appropriate elements of the Society's journals, meetings, awards, and other activities to promote, works with the Association of Chairs of Departments of Physiology to determine the best means of promoting physiology, develops methods for early identification of journal articles appropriate for promotion, utilizing reviewers and/or editors of APS journals, and reviews program on annual basis and provide recommendations to Council concerning continuance of contract with communications firm.

Andrea R. Gwosdow, Chair (2004)

Gregory D. Fink (2004)
David R. Harder (2003)
Kawanza L. Griffin (2003)
Judith A. Neubauer (2002)
Lincoln E. Ford (2002)
Stacy Brooks, *ex officio*
Donna Krupa, *ex officio*
Patricia Preisig, *ex officio* (2004)
Curt D. Sigmund *ex officio* (2004)
William T. Talman, *ex officio* (2003)
Alice Ra'anan, *ex officio*
Margaret Reich, *ex officio*

Ray G. Dagg Award

Annually selects a member of the Society to receive this award in recognition of distinguished service to APS and to the science of physiology.

William H. Dantzler, Chair (2004)
Beverly P. Bishop (2003)
Shu Chien (2004)
John R. Claybaugh (2002)
Michael J. Kenney (2004)

Education

Provides leadership and guidance in the area of physiology education of undergraduate, graduate, and professional students; recommends objectives for the graduate programs in physiology; and organizes workshops on the application of new techniques in physiological problems.

Robert G. Carroll, Chair (2003)
J. Thomas Cunningham (2002)
Jeffery R. Demarest (2002)
Meredith M. Hay (2004)
Robert L. Hester (2003)
George A. Ordway (2002)
Jeffrey L. Osborn (2003)
Michael F. Romero (2002)
Whitney M. Schlegel (2002)
Thomas J. Schmidt (2004)
Walter F. Ward (2004)
John G. Wood (2002)
William R. Galey, *ex officio* (2004)
Dee U. Silverthorn, *ex officio* (2003)

Francis L. Belloni, *ex officio* (2003)
John N. Stallone, *ex officio* (2003)
Marsha Lakes Matyas, *ex officio*

Finance

Reviews the proposed annual budget and fiscal plan for all Society activities and recommends a final budget and implementation plan to Council. Supervises the investment of the Society's financial resources subject to approval of Council.

Mordecai P. Blaustein, Chair (2002)
Ann C. Bonham (2004)
Thomas C. Herzog (2004)
Nancy K. Wills (2003)
Gerald F. DiBona, *ex officio* (2002)
John E. Hall, *ex officio* (2002)
Barbara A. Horwitz, *ex officio* (2002)
Dale J. Benos, *ex officio* (2004)
Martin Frank, *ex officio*
Robert Price, *ex officio*

International Physiology

Facilitates interchange between APS, other physiological societies, and their individual members; handles all matters pertaining to international physiological affairs, with an emphasis on developing countries; and maintains a clearinghouse for linkages with developing countries.

Hector Rasgado-Flores, Chair (2004)
Albert F. Bennett (2002)
Bonnie L. Blazer-Yost (2004)
Virginia Huxley (2002)
Pontus B. Persson (2003)
John B. West (2002)
Klaus W. Beyenbach, *ex officio* (2004)
Shu Chien, *ex officio* (2002)
Douglas C. Eaton, Council Member

Joint Program

Develops the scientific programs for the Society and assists Council in shap-

ing policy for scientific programs and in the organization of fall conferences.

Curt D. Sigmund, Chair (2004)

At-Large Members:

Craig H. Gelband (2002)
Laurie J. Goodyear (2002)
Peter J. Havel (2003)
William G. Haynes (2003)
P. Darrell Neuffer (2004)
Jeff M. Sands (2003)

Cardiovascular

Julian H. Lombard (2002) and
David W. Busija (2004)

Cell & Molecular Physiology

Peter M. Cala (2004)

Central Nervous System

J. Michael Wyss (2002)

Comparative Physiology

James W. Hicks (2002)

Education Committee

Robert G. Carroll (2003)

Endocrinology & Metabolism

Virendra Mahesh (2004)

Environmental & Exercise Physiology

Clark M. Blatteis (2002)

Epithelial Transport Group

Thomas Kleyman (2002)

Gastrointestinal

Matthew B. Grisham (2003)

History Group

Charles M. Tipton (2002)

Hypoxia Group

Nanduri R. Prabhakar (indefinite)

Members in Industry Group

Glenn A. Reinhart (2004)

Myobio Group

Thomas M. Nosek (indefinite)

Neural Control & Autonomic Regulation

Alan F. Sved (2003)

Physiological Genomics Group

Curt D. Sigmund (2003)

Renal

Christine Baylis (2002) and
Matthew Breyer (2004)

Respiratory

Jahar Bhattacharya (2003) and
J. Usha Raj (2002)

Teaching

Joel Michael (2003)

Water & Electrolyte Homeostasis

Joey P. Granger (2002)

Barbara A. Horwitz, APS President, *ex officio* (2002)

APS Representative

Linda Allen, *ex officio*

Society Representatives to the Joint Program Committee

American Federation for Medical Research (AFMR)

Natalie Ortiz (indefinite)

Robert T. Means (2002)

Kevin D. O'Brien (2002)

Biomedical Engineering Society (BMES)

Patricia Horner (indefinite)

Frank C-P. Yin (2002)

Society for Experimental Biology and Medicine (SEBM)

Felice O'Grady (indefinite)

SEBM Rep for EB 03 and EB 04

Kenneth L. Barker (2003)

Latin American Association for Physiological Sciences (ALACF)

Rosalinda Guevara Guzman (2002)

Spanish Physiological Society (SECF)

F. Javier Salazar (2002)

Liaison With Industry

Fosters interactions and improved relations between the Society and industry and cooperates with the Career Opportunities in Physiology Committee to encourage high school and college students to choose a career in physiology.

Glenn A. Reinhart Chair (2004)

Theodore P. Broten (2002)

Chahrzad Montrose-Rafizadeh (2004)

Carlos R. Plata-Salaman (2002)

Stephen C. Wood (2003)

Amy E. Halseth (2003)

Bradley A. Zinker (2002)

Kenneth G. Mandel (2002)

Robert McCall (2004)

Peter Morsing (2004)

Jodie K. Krontiris-Litowitz (2004)

Christine G. Schnackenberg (2004)

Joseph R. Haywood, *ex officio* (2004)

Linda Allen, *ex officio*

Long-Range Planning

Advises and reports annually to Council and interacts with the Section Advisory Committee; prepares systematic, periodic analyses and realistic assessments of past and present Societal performance and accomplishments; conducts review of the Society's relationships with other organizations; and devises specific goals and objectives pertinent to the future scientific mission of APS and American physiology. Reviews the progress of the Strategic Plan annually, conducts studies as assigned by Council, and prepares proposals.

Allen W. Cowley, Chair (2002)

Daniel C. Devor (2004)

Peter A. Friedman (2002)

Carmen Hinojosa-Laborde (2004)

Alan F. Sved (2003)

John A. Williams (2002)

William D. Willis (2004)

Steven C. Hebert, Council Member (2003)

Membership

Considers all matters pertaining to membership, reviews and evaluates applications received from candidates for membership, and recommends to Council the nominees for election to regular and corresponding membership.

Raouf A. Khalil, Chair (2004)

David H. Ellison (2002)

W. Larry Kenney (2002)

Charles H. Lang (2002)

Shaun F. Morrison (2004)

Caroline R. Sussman (2003)

Catherine F. T. Uyehara (2002)

Linda Allen, *ex officio*

Sue Sabur, *ex officio*

Perkins Memorial Fellowship

Selects recipients for visiting scientist family support awards and supervises administration of the Perkins Funds.

Klaus W. Beyenbach, Chair (2004)

Eduardo Colombari (2004)

Andrew J. Lawrence (2003)

Alice R. Villalobos (2003)

Molly Perkins Hauck, *ex officio*

Porter Physiology Development

Selects recipients for visiting scientists and professorships and teaching and training fellowships, aimed at improving physiological departments of medical schools with predominately minority enrollments. Counsels underdeveloped physiology departments, assists in the selection of NIDDK minority fellowship awards, and supervises the administration of the Porter Fund.

Pamela J. Gunter-Smith, CoChair (2004)

H. Maurice Goodman, CoChair (indefinite)

Mouhamed S. Awayda (2003)

Cynthia A. Jackson (2003)

Irving G. Joshua (2003)

Susan C. Kandarian (2004)

Jane F. Reckelhoff (2002)

Frank Talamantes (2002)

Terry N. Thrasher (2004)

Martin Frank, *ex officio*

Marsha Lakes Matyas, *ex officio*

Public Affairs

Advises Council on all matters pertaining to public affairs that affect physiologists and implements public affairs activities in response to Council guidance.

William T. Talman, Chair (2003)

Virginia Brooks (2002)

Barbara E. Goodman (2004)

Alan Kim Johnson (2004)
Ronald M. Lynch (2003)
Willis K. Samson (2002)
Irving H. Zucker (2003)
John N. Stallone, *ex officio*
Alice Ra'anan, *ex officio*

Publications

Manages all Society publications, including the appointment of editors and editorial boards, and supervises the Book Advisory Committees (handbooks, technical series, and history) to ensure timely publication.

Dale J. Benos, Chair (2004)
Penelope A. Hansen (2004)
Mark A. Knepper (2004)
Richard A. Murphy (2002)
Hershel Raff (2003)
John E. Hall, *ex officio*
Martin Frank, *ex officio*
Margaret Reich, *ex officio*

Section Advisory

Recommends to Council ways to strengthen the Sections' roles in programs, public affairs, and governance of the Society; serves as a Nominating Committee to nominate Society officers; and nominates members as candidates for service on Society committees.

Celia D. Sladek, Chair (2002)

Cardiovascular

William M. Chilian (2004)

Cell & Molecular Physiology

Michael L. Jennings (2004)

Central Nervous System

Susan M. Barman (2002)

Comparative Physiology

Stan L. Lindstedt (2004)

Endocrinology & Metabolism

Charles H. Lang (2004)

Environmental & Exercise Physiology

Kenneth M. Baldwin (2004)

Gastrointestinal

Helen E. Raybould (2002)

Neural Control & Autonomic Regulation

Jeanne L. Seagard (2003)

Renal

Jeff M. Sands (2002)

Respiration

Michael A. Matthay (2002)

Teaching of Physiology

Dee U. Silverthorn (2002)

Water & Electrolyte Homeostasis

Thomas E. Lohmeier (2003)

APS Representative

Linda Allen, *ex officio*

Senior Physiologists

Maintains liaison with senior and emeritus members and assists in the selection of recipients of the G. Edgar Folk, Jr. Fund.

Michael Bárány, Chair (2003)

David F. Bohr (2003)

Felix Bronner (2004)

G. Edgar Folk (2004)

N. Herbert Spector (2002)

Douglas G. Stuart (2003)

Karlman Wasserman (2002)

Women in Physiology

Deals with all issues pertaining to education, employment, and professional opportunities for women in physiology. Develops programs to provide incentives enabling graduate students to present their research work at APS meetings, coordinates activities with other committees on women in the FASEB organization, administers the Caroline tum Suden Professional Opportunities Awards, and provides mentoring opportunities for members.

Carole M. Liedtke, Chair (2004)

Magdalena Alonso-Galicia (2004)

Siribhinya Benyajati (2002)

Robin L. Davisson (2003)

Danuta H. Malinowska (2004)

Suzanne M. Schneider (2002)

Donna H. Wang (2002)

Kim A. Huey, student member (2002)

Marsha Lakes Matyas, *ex officio*

Moving?

If you have moved or changed your phone, fax, or email address, please notify the APS Membership Office at 301-530-7171 or fax to 301-571-8313.

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Experimental Biology 2002

Important Deadlines

Registration Deadline
February 12, 2002

Housing Deadline
March 8, 2002

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Membership

Program Announcement

Porter Physiology Fellowships for Minorities

Closing Date for New Applications: January 15, 2002
Announcement of Awards: May 20, 2002

Annual Stipend: \$18,000

Duration of Fellowship: 1 year with possibility of 2nd year of support

The Porter Physiology Fellowships for Minorities are open to underrepresented ethnic minority applicants (African Americans, Hispanics, Native Americans, Native Alaskans, or Pacific Islanders) who are citizens or permanent residents of the United States or its territories. Applicants must have been accepted into or currently be enrolled in a graduate program pursuing an advanced degree in the physiological sciences.

FOR AN APPLICATION CONTACT:

APS Education Office
9650 Rockville Pike
Bethesda, MD 20814-3991
(301) 530-7132
fax (301) 530-7098
educatio@the-aps.org
http://www.the-aps.org/education/minority_prog/porterfell.htm



Sponsored by: APS Porter Physiology Development Committee

Deadlines! Deadlines!

The APS sponsored awards are plentiful, but in order to be considered, don't forget to submit the application information before the deadline!

Award

William T. Porter Fellowship Awards
APS Postdoctoral Fellowship in Physiological Genomics
AAAS Mass Media Science and Engineering Fellowship
Research Career Enhancement Awards
Teaching Career Enhancement Awards
John F. Perkins, Jr., Memorial Fellowships
William T. Porter Fellowship Award
Research Career Enhancement Awards
Teaching Career Enhancement Awards
Shih-Chun Wang Young Investigator Award
Arthur C. Guyton Awards in Integrative Physiology

Next Deadline

January 15
January 15
January 15
April 15
April 15
May 15
July 15
October 15
October 15
November 1
November 1

Conferences

2001 APS Conference Cellular and Molecular Physiology of Sodium-Calcium Exchange October 10-14, Banff, Alberta, Canada

The 2001 APS Conference on “Cellular and Molecular Physiology of Sodium-Calcium Exchange” was held at the Banff Centre for Conferences, located in the majestic Canadian Rockies within Banff National Park. Herds of Elk and deer grazed unconcerned outside the Max Bell Building where the sessions were held while inside researchers exchanged knowledge about sodium-calcium exchange. Designated free time each afternoon found attendees utilizing the abundance of hiking trails or visiting nearby lakes, including the stunning Lake Louise. The Organizing Committee, chaired by Jonathan Lytton of the University of Calgary, selected the venue and arranged the scientific sessions.

The conference featured an in-depth exchange of ideas about new and evolving information on the sodium-calcium exchanger in areas ranging from molecular mechanisms to the involvement of human disease. The meeting encouraged interactions between investigators studying molecular and/or kinetic aspects of the sodium-calcium exchanger and those studying its physiological behavior at the cellular and tissue levels.

There was an internationally recognized and interdisciplinary group of

investigators present and interaction was enhanced by the presence of young scientists, students, and established investigators. The conference attracted 130 registrants, 31% of which represented young scientists, including 33 students and seven postdoctoral registrants. Eighteen (14%) were APS members, including one Emeritus member, and 28 (22%) were not members of APS. Thirty-eight (14%) of the registrants represented invited speakers and session chairs. Of the 130 registrants, 30 (23%) were from Canada; 26 (20%) were from outside The Americas; 2 (1%) were from industry and; 3 (2%) were from researchers working in US Government labs.

The outstanding program consisted of a keynote lecture, seven symposia, a debate, and 60 poster presentations. The social program included the Opening Reception on Wednesday evening, a bus tour to Lake Louise on Friday afternoon, and the Conference Banquet and Awards Presentation on Saturday evening.

The awards presentation recognized recipients of the Graduate Student Award for outstanding presentations. The awardees listed below were presented with a cash prize and certificate: **Jeremy Dunn**, “The molecular deter-



Jonathan Lytton, Chair of the Organizing Committee, presents Michael Isaac with a Graduate Student Award for outstanding presentation.

minants of Ca^{2+}_I block of I_1 on the $\text{Na}^+/\text{Ca}^{2+}$ exchanger”; **Masamitsu Hinata**, “Re-examination of the stoichiometry of Na/Ca exchange with whole-cell clamp of guinea pig ventricular myocytes”; **Ion Hobai**, “Acid pH changes the stoichiometry of forward Na/Ca exchange in a heterologous expression system”; **Michael Isaac**, Inhibition of the *Drosophila* $\text{Na}^+/\text{Ca}^{2+}$ exchanger CALX1.1, by KB-R7942”; **Diane Roberts**, “Collagen activates the reverse mode of the $\text{Na}^+/\text{Ca}^{2+}$



The mountains of Banff added to the picturesque atmosphere of the meeting.



Female elk graze just outside of the meeting complex.

Conferences



Poster discussions at the meeting.



Jonathan Lytton, Chair of the Organizing Committee, presents Diane Roberts with a Graduate Student Award for outstanding presentation.

exchanger in human platelets.”

In addition, the following students received honorable mention certificates without a cash prize: **Tashi Kinjo**, “Topology of the retinal cone Na/Ca-K exchanger”; and **La’Tonia Stiner**, “The role of NCX in crustacean calcium homeostasis: molecular and physiological characterization.”

Inneke Jackson, Margaret Lyles, Michelle Walker, Jayne Reuben and Vallie Holloway, all of Florida A&M University College of Pharmacy and Pharmaceutical Sciences, as well as **La’Tonia Stiner** of Wright State University, were recipients of the Porter Physiology Development Committee’s Minority Travel Fellowship Awards provided to encourage participation of underrepresented minority students. With support from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) and the National Institute of General Medical Sciences (NIGMS), the fellowship provides

reimbursement of all expenses associated with travel to and participation in the conference. The recipient is matched with an APS member attending the conference who offers guidance and makes introductions to other scientists.

A total of 60 abstracts were submitted to the conference for poster presentation and six of the authors were selected to present 15-minute oral presentations. The selected authors were: **Lucio Annunziato** from University of Naples, Italy, “Differential expression of the Na⁺/Ca²⁺ exchanger encoding genes NCX1, NCX2 and NCX3 in the rat brain”; **Paul Bauer** from Research Center Jurlich, Germany, “Self-inhibition of the retinal Na/Ca-K exchanger”; **Luis Beauge** from University of Cordoba, Argentina, “MgATP regulation of PtdIns(4,5)P2 bound to cardiac Na⁺/Ca²⁺ exchanger”; **Simon Conway** from Medical College of Georgia, “Role of sodium calcium exchanger in embryonic heart development”; **Calvin**

Hale from University of Missouri, “The cardiac sodium-calcium exchanger associates with caveolin-3”; and **Denis Noble** from Oxford University, “Influence of Na-Ca exchange stoichiometry on model cardiac action potentials.”

Table 1 provides a distribution of abstracts based on submitting department.

Table 1. Distribution by Department of Submitted Abstracts

Department	Abstracts	
	No.	%
Cardiology/CV Sciences	12	20
Pharmacology	11	18
Biochemistry or Molecular Biology	9	15
Physiology	6	10
Medicine	6	10
Microbiology and Immunology	4	6

Twenty-five percent were by female first authors, 26% were submitted by authors at institutions outside The Americas, and 25% were submitted by authors residing in Canada. Table 2 provides the breakdown of registration by type. Twenty-one percent of the registrants were female; 22% were from outside The Americas and; 32% were from Canada.

The Society and Organizing Committee gratefully acknowledge support provided through grants from Alberta Heritage Foundation for Medical Research, Canadian Institutes of Health Research, University of Calgary, Faculty of Medicine, The Canadian Society of Biochemistry and Molecular and Cellular Biology, Merck & Company, Inc., Invitrogen Corporation, Axon Instruments, New England Biolabs Ltd., Carl Zeiss Canada Ltd., Mandel Scientific Company Ltd., and VWR Canlab. ❖

Table 2. Registration Statistics

	No.	%
APS Member	17	13
Non-member	28	22
Postdoctoral	7	5
Student	33	25
Retired	1	<1
Invited Speaker	38	29
Guest	6	5
Total	130	100

Conferences

2001 APS Conference Genome and Hormones: An Integrative Approach to Gender Differences in Physiology October 17-20, Pittsburgh, Pennsylvania

Fall foliage at peak season—with striking hues of red, yellow and orange against Pittsburgh's tall surrounding hills—provided the breathtaking backdrop for the 2001 APS Conference, organized by **Virginia M. Miller**, Chair, on "Genome and Hormones: An Integrative Approach to Gender Differences in Physiology." The meeting was held October 17-20, 2001 in Pittsburgh, the city with a seamless tapestry of past and present, industry and culture, cosmopolitan living and neighborly charms.

The conference was held at the Westin Convention Center Hotel and brought together for the first time experts in genetics, molecular biology, integrated physiology and clinical medicine to address genetic influences on responses to sex steroids. For decades, research of basic physiological systems, which extended into clinical trials, were defined from results of studies of the "normal 70kg male." Understanding differences in physiology and pathophysiology associated with incidence of disease in males and females needs to become an integral part of scientific approaches. The conference was organized into two major sections: common

basic principles and integrative systems. The first section focused on basic mechanisms of action of sex steroid from receptors to intracellular processes that are common to many cell types. The second section focused on how these basic mechanisms influence integrative physiological responses, including presentation of disease. The final session discussed translational approaches of basic research to clinical questions—a bench-to-bedside approach.

The conference attracted 150 registrants, 45% of which were female and 32% of which represented young scientists, including 27 students and 21 postdoctoral registrants. Twenty-nine (19%) were APS members and 35 (23%) were not members of APS. Thirty-five (23%) represented invited speakers and session chairs. Of the total registrants, 10 (6%) were from outside The Americas; six (4%) were from industry, and three (2%) were from US government labs.

The outstanding program consisted of eight symposia, one keynote lecture and 10 poster sessions that included a total of 75 poster presentations. The social program included an opening reception on Wednesday evening and the Conference Banquet and Awards

Presentation on Friday evening where attendees danced the night away. In addition, Thursday evening featured a reception at the Andy Warhol Museum, where attendees were free to roam seven floors dedicated to style, fashion and fame as chronicled by the 20th century's most influential pop icon.

The awards presentation honored a total of 11 student and postdoctoral fellows, four of which were sponsored by Servier International. The awardees received a cash prize and certificate presented during the banquet. They were: **Andrea Grete Zabka**, University of Wisconsin, Madison (Servier International Awardee), "Gender affects age-dependent phrenic and hypoglossal responses to hypoxia in rats"; **Harshini Mukundan**, University of New Mexico (Servier International Awardee), "Estrogen attenuates hypoxic induction of erythropoietin gene expression"; **Sabra L. Klein**, Johns Hopkins School of Public Health (Servier International Awardee), "Sex differences in Hantavirus infection: interactions among hormones, genes, and immunity"; **Tara Perrot-Sinal**, University of Maryland (Servier International Awardee), "Opposing effect of GABA

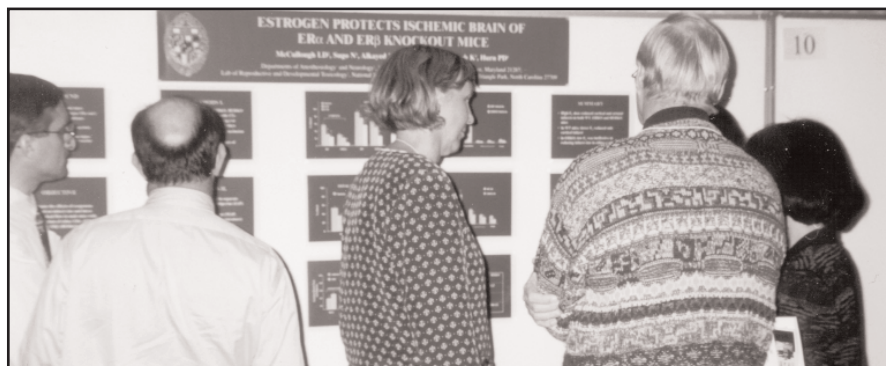


Servier International poster presentation awardees.



APS Conference poster presentation awardees.

Conferences



Poster presentation at the Pittsburgh meeting.

on phosphorylation of CREB in males and females is developmentally regulated and dependent on L-type calcium channels”; **Fushun Yu**, Penn State University, (Servier International Awardee), “Effects of gender on contractile properties and myosin isoforms at the skeletal muscle cell level in young, old, and oldest old humans”; **John Andrew Duncan**, Toronto General Hospital, “Gene gender interactions and blood pressure in normal adults”; **Karyn L. Hamilton**, Baylor College of Medicine, “Effects of 17 β -estradiol, tamoxifen, and geldanamycin on HSP72 accumulation in isolated cardiac myocytes from female rats”; **Jeffrey H. Mills**, SUNY Upstate Medical University, “Androgen receptor does not play a role in the thymic response to estradiol”; **Meike R. Rath**, VA Medical Center, Houston, “Gender differences in the expression of heat shock proteins: the effect of estrogen”; **Steven E. Riechman**, University of Pittsburgh, “DHEA/DHEAS responses

to strength training in men and women: influence of a polymorphic marker in the X-linked steroid sulfatase gene”; and **Manoj C. Rodrigo**, University of South Dakota, “Estrogen regulation of gene expression in resistance blood vessels.”

Turner R. Coggins, Jr., College of Southern Maryland, **Rayna Gonzales**, University of New Mexico School of Medicine, **Nikki Jernigan**, University of New Mexico School of Medicine, **Joseph Nunez**, University of Maryland, Baltimore, and **Jose Ospina**, University of California, Irvine, were recipients of the Porter Physiology Development Committee’s Minority Travel Fellowship Awards provided to encourage participation of underrepresented minority students. With support from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) and the National Institute of General Medical Sciences (NIGMS), the fellowship provides reimbursement of all expenses associated with travel to

Table 2. Registration Statistics

	No.	%
APS Member	29	23
Non-member	35	19
Postdoctoral	21	14
Student	27	18
Invited Speaker	35	23
Guest	3	2
Total	150	100

and participation in the conference. The recipient is matched with an APS member attending the conference who offers guidance and makes introductions to other scientists.

A total of 75 abstracts were submitted to the conference for poster presentation. Table 1 provides a distribution of abstracts based on submitting department. Forty-five percent of the total submitted abstracts had female first authors; 13% were from outside The Americas; 3% were submitted from US Government laboratories and 2% from researchers working in industry.

The Society and Organizing Committee gratefully acknowledge financial support provided through generous educational grants from: NIH-NHLBI, Mayo Foundation, Wyeth-Ayerst Pharmaceuticals, Glaxo Wellcome, Eli Lilly and Company, Pfizer, Inc., Merck Research Laboratories, Abbott Laboratories, Magee-Women’s Health Corporation, Servier International, and Galileo Laboratories. ❖

Table 1. Distribution by Department of Submitted Abstracts

Department	Abstracts	
	No.	%
Physiology	16	21
Biology	8	11
Pharmacology	6	8
Anesthesiology	6	8
Surgery	4	5



Meeting attendees dancing the night away.

Education

APS/NIDDK Minority Travel Fellows Attend 2001 Conferences in Banff, Alberta, Canada and Pittsburgh, PA

The APS regularly awards Travel Fellowships for underrepresented minority scientists and students to attend APS scientific meetings with funds provided by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). The Fellowships provide funds for transportation, meals, and lodging for travel to a meeting location, as well as complimentary meeting registration. Six Fellows attended the APS Conference “Cellular and Molecular Physiology of Sodium-Calcium Exchange,” in Banff, Alberta, Canada, October 10-14, 2001. Five Fellows attended the APS Conference “Genome & Hormones: An Integrative Approach to Gender Differences in Physiology,” in Pittsburgh, PA, October 17-20, 2001.

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, postdoctoral 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 the APS Education Office at 301-530-7132 or educatio@the-aps.org, or visit http://www.the-aps.org/education/minority_prog/index.htm on the APS website.

Fellows at “Cellular and Molecular Physiology of Sodium-Calcium Exchange”: **Vallie Holloway**, Florida A&M University; **Inneke Jackson**, Florida A&M University; **Margaret Lyles**, Florida A&M University; **Jayne Reuben**, Florida A&M University; **LaTonia Stiner**, Wright State University; **Michelle Walker**, Florida A&M University

APS Mentors at “Cellular and Molecular Physiology of Sodium-Calcium Exchange”: **Jonathon Lytton**, University of Calgary Health Sciences Center; **Steven Houser**, Temple University School of Medicine; **Elizabeth Murphy**, NIEHS/NIH; **Kenneth Philipson**, University of California-Los Angeles.

Fellows at “Genome & Hormones: An Integrative Approach to Gender Differences in Physiology”: **Turner R. Coggins, Jr.**, College of Southern Maryland; **Rayna Gonzales**, University of New Mexico School of Medicine; **Nikki Jernigan**, University of New Mexico; **Joseph Nunez**, University of Maryland, Baltimore; **Jose Ospina**, University of California-Irvine College of Medicine.

APS Mentors at “Genome & Hormones: An Integrative Approach to Gender Differences in Physiology”: **Sue P. Duckles**, University of California-Irvine; **Karen Carlberg**, Eastern Washington University; **Martin Frank**, The American Physiological Society; **Suzanne Oparil**, University of Alabama-Birmingham. ♦

Encouraging Undergraduate Students in Biomedical Research Careers

Undergraduate Summer Research Fellowship

www.the-aps.org/education/ugrsrf/index.html



photo source: photodisc.com

For APS Members and Undergraduate Students:
Students will:

- ▶ Experience 10 weeks of research during the summer in the lab of an established APS-member investigator;
- ▶ Attend an APS meeting;
- ▶ Present an abstract at an APS Conference.

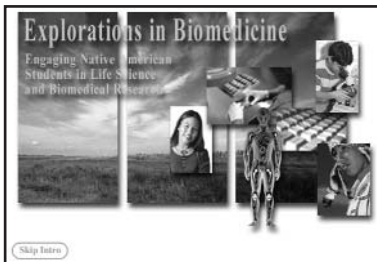
Deadline for Applications
January 25, 2002



The American Physiological Society, Education Office
9650 Rockville Pike, Bethesda, MD 20814-3991
301-530-7132, Fax: 301-530-7098
Email: educatio@the-aps.org
<http://www.the-aps.org/education.htm>

Education

New Explorations in Biomedicine CD-ROM Available



The APS works to increase participation in biomedical research careers among Native American students in Montana. A New Explorations in Biomedicine CD-ROM has been developed with

Explorations in Biomedicine resources. This CD-ROM is designed for educators with an interest in science activities that focus on Native American health and science issues. It is a compilation of classroom/lab activities, program information, and resources for the K-12 and tribal college science educator, but would be a useful resource for any science educator. For more information about Explorations in Biomedicine, please visit the APS website at <http://www.the-aps.org/education/expl/index.htm> or contact

Andrea Jackson, Project Administrator, via Email: ajackson@the-aps.org. The Explorations in Biomedicine CD-ROM is now available by request; single copies are free. Please send your name and mailing address to Brooke Bruthers via email: bbruthers@the-aps.org or by phone: 301-571-0693.

CD-ROM Includes:

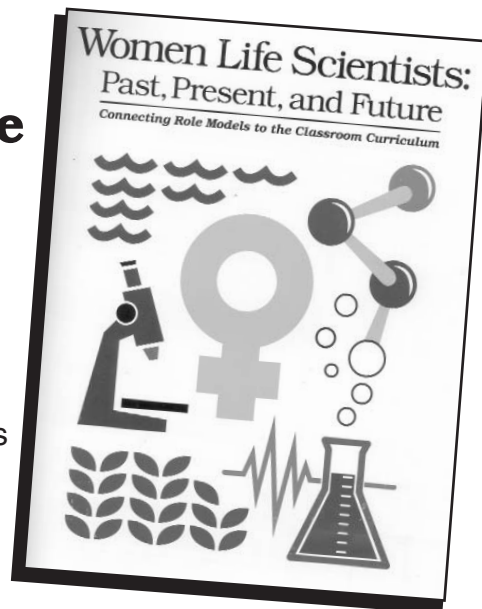
- Information about the APS, physiology, and the American Indian Research Opportunities Consortium Curricular themes that focus on Native American health and science issues
- Profiles of science educators participating in Explorations in Biomedicine
- Web links, including sites on Native American scientists
- Teaching resources

Help your local science teachers introduce their middle and high school students to female science role models and hands-on, inquiry, and problem-solving science activities.

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Twenty modules drop easily into the middle/high school life sciences curricula — not an “add-on.”

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Experimental Biology 2002

April 20-24, 2002 • New Orleans, LA



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

Allen W. Cowley, Jr.
Medical College of Wisconsin

*"Genomics and
Cardiovascular Function"*

SATURDAY, APRIL 20, 5:30 PM



HENRY PICKERING BOWDITCH
AWARD LECTURE

Pontus B. Persson
Humboldt University

*"Control of Renin, From Cell
Lysates to the Conscious Dog"*

SUNDAY, APRIL 21, 5:30 PM

Distinguished Lectureships



AUGUST KROGH
DISTINGUISHED LECTURESHIP OF
THE COMPARATIVE
PHYSIOLOGY SECTION

Albert F. Bennett
University of California, Irvine

*"Experimental Evolution:
Generating Biological Novelty
for Functional and Genetic
Analyses"*

SUNDAY, APRIL 21, 8:00 AM

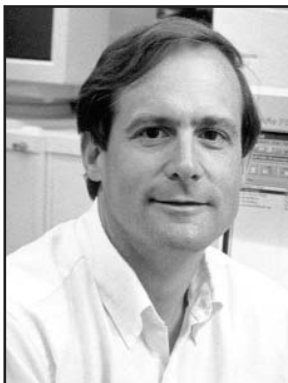


CARL LUDWIG
DISTINGUISHED LECTURESHIP
OF THE NEURAL CONTROL AND
AUTONOMIC REGULATION
SECTION

Suzanne Oparil
University of Alabama,
Birmingham

*"The Anterior Hypothalamic
Area: Gatekeeper in the
Pathogenesis of Salt-Sensitive
Hypertension"*

SUNDAY, APRIL 21, 10:30 AM



CARL W. GOTTSCHALK
DISTINGUISHED LECTURESHIP
OF THE RENAL SECTION

Biff Forbush
Yale University

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

SUNDAY, APRIL 21, 2:00 PM



CLAUDE BERNARD
DISTINGUISHED LECTURESHIP OF
THE TEACHING OF PHYSIOLOGY
SECTION

Penelope A. Hansen
Memorial University,
Newfoundland

*"Physiology's Recondite
Curriculum"*

SUNDAY, APRIL 21, 3:15 PM

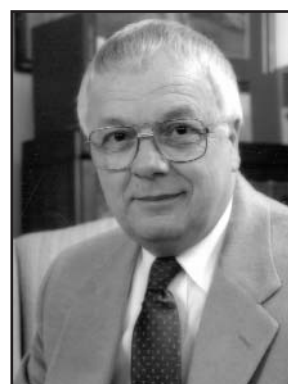


JOSEPH ERLANGER
DISTINGUISHED LECTURESHIP
OF THE CENTRAL NERVOUS
SYSTEM SECTION

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

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

MONDAY, APRIL 22, 9:00 AM



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

Norman C. Staub
University of California,
San Francisco

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

MONDAY, APRIL 22, 10:30 AM

Experimental Biology 2002

April 20-24, 2002 • New Orleans, LA



ROBERT M. BERNE
DISTINGUISHED LECTURESHIP
OF THE CARDIOVASCULAR
SECTION

David G. Harrison
Emory University

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

MONDAY, APRIL 22, 2:00 PM



HUGH DAVSON
DISTINGUISHED LECTURESHIP OF
THE CELL AND MOLECULAR
PHYSIOLOGY SECTION

Harvey F. Lodish
Whitehead Institute for
Biomedical Research

*"ACRP30 and Fatty Acid
Transport Proteins—New
Approaches to Obesity and
Diabetes"*

MONDAY, APRIL 22, 2:00 PM



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

Bruce M. Spiegelman
Dana-Farber Cancer Institute,
Boston

*"Transcription Regulation of
Energy and Glucose
Homeostasis"*

MONDAY, APRIL 22, 3:15 PM



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

Richard P. Lifton
Yale University

*"Genetics, the Kidney and
Hypertension"*

TUESDAY, APRIL 23, 9:00 AM



HORACE W. DAVENPORT
DISTINGUISHED LECTURESHIP OF
THE GASTROINTESTINAL
SECTION

John A. Williams
University of Michigan

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

TUESDAY, APRIL 23, 10:30 AM



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

Peter D. Wagner
University of California,
San Diego

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

TUESDAY, APRIL 23, 2:00 PM

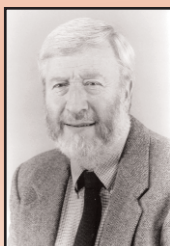
Fourth Annual Walter C. Randall Lecture in Biomedical Ethics

Adrian Morrison

University of Pennsylvania

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

TUESDAY, APRIL 23, 2:00 PM



FASEB Excellence in Science Award

Phyllis Wise

University of Kentucky, College of
Medicine

*Estrogen: Potent Protective Factors
in the Adult and Aging Brain*

SUNDAY, APRIL 21, 2:00 PM



Experimental Biology 2002

April 20-24, 2002 • New Orleans, LA

Tentative Schedule of Sessions

Saturday, April 20, Morning Sessions

Refresher Course: Recent Advances in Neuroscience
Education Committee
C. M. Heesch and T. J. Cunningham

*Understanding Organ Function Through Real-Time
Fluorescence Microscopy*
Workshop
J. Bhattacharya and B. Pitt

Saturday, April 20, Afternoon Sessions

*Techniques & Technology in Physiology Tutorial:
Bioinformatics for the Physiologist*
Physiological Genomics Group
P. Tonellato

*Everything You Ever Wanted to Know about the IACUC but
Were Afraid to Ask*
Public Affairs
J. Stallone

*Microcirculatory Society President's Symposium: Signaling
in Cells of the Microvascular Wall*
The Microcirculatory Society
I. Sarelius

Diagnosis and Treatment with Atrial Natriuretic Metabolism
American Federation for Medical Research
D. L. Vesely

Sunday, April 21, Morning Sessions

*Physiology InFocus-Translating the Genome: Physiology
and Pathophysiology of Obesity: Gene Environment
Interactions in Obesity*
T. Kurtz and J. Hill

New Paradigms in Neovascularization
Cardiovascular Section
G. C. Schatteman and T. Asahara

Viruses, Ion Channels and Ion Transporters
Cell & Molecular Physiology
J. M. Russel

Sex and Nonsex- Estrogen and the Aging Hypothalamus
Central Nervous System Section
J. T. Clark

*The Sensory Functions of the DEG/ENAC Superfamily of
Ion Channels*
Cross Sectional
D. J. Benos and B. A. Stanton

Role of Myostatin in Regulating Muscle Growth
Endocrinology & Metabolism
S-J Lee

*Molecular and Cellular Mechanisms of Ischemic Liver
Injury*
Gastrointestinal Section
A. B. Lentsch

Bioinformatics in Physiological Genomics
Physiological Genomics Group
P. Tonellato

Peer Review and Publication of APS Journals
Public Affairs Committee
D. J. Benos

The Sudden Infant Death Syndrome, Sleep, and Breathing
Respiration Section
E. Nattie

Incorporating Case Studies in the Physiology Classroom
Teaching of Physiology Section
W. H. Cliff

Role of Endothelin ET_B Receptors in Cardioresenal Function
Water & Electrolyte Homeostasis
G. D. Fink

How to be a Good Mentor; How to be a Good Mentee
Women in Physiology Committee and The American
Society for Pharmacology and Experimental Therapeutics
S. M. Barman

*The Promise for Therapeutic Intervention in Obesity:
The Brain and Beyond*
American Federation for Medical Research
D. D'Alessio

Manipulations to Enhance New Tissue Formation
Biomedical Engineering Society
F. C-P Yin

Experimental Biology 2002

April 20-24, 2002 • New Orleans, LA

Sunday, April 21, Afternoon Sessions

Physiology InFocus-Translating the Genome: Physiology and Pathophysiology of Obesity: Neurobiology of Obesity

W. Haynes and M. Schwartz

Genetic Adaptation to Cold

Environmental & Exercise Physiology Section

L. Wang

Functional Heterogeneity in the Renal Microcirculation

Renal Section

L. M. Harrison-Bernard and R. D. Loutzenhiser

Rhythms in Reproduction

Association of Latin American Physiol. Societies

R. Guevara-Guzmán and R. Hudson

Microcirculatory Society Young Investigator Session

The Microcirculatory Society

D. Stepp

Monday, April 22, Morning Sessions

Physiology InFocus-Translating the Genome: Physiology and Pathophysiology of Obesity: Obesity and Cardiovascular Regulation

A. Mark and J. Hall

Physiology InFocus-Translating the Genome: Physiology and Pathophysiology of Obesity: Endocrine/Metabolic Consequences of Obesity

B. Horwitz and B. Kahn

Physiology InFocus-Translating the Genome: Physiology and Pathophysiology of Obesity: Obesity and Cardiovascular Regulation

A. Mark and J. Hall

Apoptosis and Organ Injury Mechanisms in Hypertension

Cardiovascular Section and The Microcirculatory Society

G. W. Schmid-Schonbein and M. A. Boegehold

Comparative Models to Understanding Molecular Mechanisms of Solute Transport

Comparative Section

G. G. Goss

Physiology of Physical Inactivity's Induction of Chronic Disorders

Environmental & Exercise Physiology Section

F. W. Booth and J. Holloszy

Ion Channels and Hypoxia

Hypoxia Group

D. L. Kunze

New Developments in Renal Acid-Base Transport and its Regulation

Renal Section

M. A. Knepper and S. Wall

Endothelial Dysfunction in End Stage Renal Disease

American Federation for Medical Research

M. Goligorsky and C. Baylis

Nanotechnology in Bioengineering and Biology

Biomedical Engineering Society

T. Desai

Monday, April 22, Afternoon Sessions

Mechanisms of Vascular Remodelling: Temporal Events from Stimulus to Structural and Functional Changes

Cardiovascular Section and The Microcirculatory Society

M. A. Hill and G. Meininger

Cellular Biomechanics in the Lung

Respiration Section

C. M. Waters

The Role of Angiotensin and Oxidative Stress in the Development of Hypertension

SEBM

J. C. Romero

Tuesday, April 23, Morning Sessions

Cell-Cell Crosstalk in the Generation of Inflammation

Cross Sectional

J. Bhattacharya

Estrogen: A Potent Neuroprotective Factor

Endocrinology & Metabolism

P. M. Wise

Neural Control of the Cerebral Circulation

Neural Control & Autonomic Regulation

W. T. Talman

Adaptive Responses of Cardiac Muscle

MyoBio (Muscle) Group

R. Mestril

Experimental Biology 2002

April 20-24, 2002 • New Orleans, LA

Disorders of Sodium Transport and Blood Pressure

Regulation

Renal Section

S. Linas

Tuesday, April 23, Afternoon Sessions

Career Opportunities in Physiology: Taking the Next Step

Careers in Physiology Symposium Committee

F. L. Belloni

Vascular Consequences of Oxidant Stress

Cross Sectional

B. Pitt and F. Miller

Epithelial Channels: Regulation by Differentiation and

Growth Factors

Epithelial Transport Group

J. D. Stockand and S. Rane

Redox Control of Skeletal Muscle Adaptation

MyoBio (Muscle) Group

M. B. Reid and Scott K. Powers

Wednesday, April 24, Morning Sessions

Cardiac Fibroblasts and Heart Failure

Cardiovascular Section

P. A. Lucchesi and W. Hseuh

Mechanisms of Estrogen Effects on the Cardiovascular

System

Cardiovascular Section

D. R. Gross

Hypoxia, Ischemia, Na, Ca, and Cytoprotection

Cell & Molecular Physiology

S. Anderson

Physiology and Risk Assessment: Predicting Adverse Effects

of New Chemicals on Critical Organ Functions

Workshop

Liaison with Industry Committee

L. B. Kinter and A. S. Bass

Cyclooxygenase-2 and Renal Function

Spanish Physiological Society and Renal Section

F. J. Salazar and J. Schnermann

Common Brainstem Mechanisms of Cardiovascular and

Respiratory Control

Respiration Section

W.W. (Bill) Blessing and J. M. Wyss

Mesenchymal-Epithelial Interactions in Lung Development

and Repair-Are Modeling and Remodeling One and the

Same Process?

Respiration Section

J. S. Torday

Potentiation of the Development of Atherosclerosis by

Diabetes

American Federation for Medical Research

B. Draznin

Bioengineering Approaches to Enhance Gene Delivery

Biomedical Engineering Society

M. Davis

Public Affairs Symposium

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

Experimental Biology 2002

Saturday April 20; 1-5 PM

Room 213 Convention Center

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

Featured topics include:

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

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

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

Section-Sponsored Featured Topics

Muscle Fatigue

William Ameredes and Thomas M. Nosek

Formation of Epithelia in the Embryonic Kidney

Jonathan Barasch

Insights Into Epithelial Transport Physiology Gleaned From Interactions with Intestinal Pathogens

Kim Barrett

Signal Transduction Mechanisms for O₂ Homeostasis

Barbara S. Beckman and Nanduri Prabhakar

Eicosanoids and Fever

Clark M. Blatteis and Wieslaw Kozak

Energy Metabolism in Skeletal and Cardiac Muscle

Marco Cabrera

Neural Mechanisms Impacting Sodium Balance and Arterial Pressure in Hypertension and Heart Failure

Heimo Ehmke

Molecular Bases of Local Calcium Signaling

J. Kevin Foskett

Regulation of Vascular Tone: Parallel Versus Redundant Control Mechanisms

Jefferson C. Frisbee

Applications of Physiological Genomics: The Discovery of Novel Genes for Volume and Pressure Regulation

Andrew Greene

Physiological Genomics: Transgenic Models and Gene Regulation

Kenneth W. Gross and Robin L. Davisson

Redox Regulation of Vascular Function-Berne Lecture Featured Topic

David Harrison

Epithelial Calcium Channels: From Identification to Physiology and Pathophysiology

Matthias Hediger

Interfacing Molecular and Integrative Physiology of the Kidney: Na Transporters and Channels in Complex Disease Models

Mark Knepper

Microvascular Regulation in Genetic and Acquired E-NOS Deficiency

Akos Koller

Exercise-Induced Cardioprotection: Unique Insights From Cardiac, Smooth and Skeletal Muscle

Donna H. Korzick

Protein Transport Across Lung Air-Blood Barrier

Asrar B. Malik

Physiological Mechanisms of Neuronal Plasticity in the Mature Nervous System

Eve E. Marder and J. Michael Wyss

Living at Extreme Temperatures: Genes to Organisms

Marina Marjanovic

Ventilator Induced Lung Injury: in vivo and in vitro Mechanisms

Michael Matthay

Membrane Transport Autoinhibitory Domains

Mark Milanick

Helping Students Understand Physiology Through the Use of General Models

Harold Modell

Cardiovascular and Endocrine Control in Mice: A Mouse is Not a Small Rat

Marianna Morris

Integration of Volume Regulation and Cardiovascular Function, an Application of Comparative Physiology

Kenneth Olson

Physiological Genomics: Disease Gene Therapy

M. Ian Phillips and Curt D. Sigmund

Vascular Consequences of Oxidant Stress

Bruce Pitt and Francis Miller

Cardiovascular Genomics

Mohan K. Raizada and Kathleen Berecek

Oxygen Dependent Signaling in Pulmonary Vascular Smooth Muscle Cell

Usha Raj

Orthostatic Tachycardia and Hypotensive Syndromes

David Robertson

Skeletal Muscle Circulation: Neural and Mechanical Determinants-Wiggers Award Featured Topic

Loring B. Rowell

Chemoreflexes in Health and Disease: Recent Perspectives in Cardiovascular Control

Harold Schultz

Fetal Programming of Post-Natal Cardiovascular Regulation

Jeff Schwartz and Kent Thornburg

Role of Gap Junction in CO₂ Chemoreception and Respiratory Control

Irene C. Solomon and Jay B. Dean

History of Gastric Secretion

Charles M. Tipton

Dietary Fat: Physiology and Metabolic Consequences

Patrick Tso

Proteinases: Novel Signaling Molecules in Gastrointestinal Function and Dysfunction

John L. Wallace

Sensory Afferents and Cardiovascular Regulation

Donna Wang and Steven Mifflin

Ontogeny of Cardiorespiratory Mechanisms: An Evolutionary Perspective

Stephen J. Warburton

Emerging Views of Epithelial Chloride Channels

N.K. Wills and P. Fong

Which Oxidase is the Most Important in Vascular Signaling?

Michael S. Wolin

The Sensory Functions of the DEG/ENAC Superfamily of Ion Channels

Dale J. Benos and Bruce A. Stanton

Cell-Cell Crosstalk in the Generation of Inflammation

Jahar Bhattacharya

Translational Research in Preeclampsia and Pregnancy-Induced Hypertension

Raouf A. Khalil and Phyllis August

Are You Giving Money to Undermine Medical Research?

If you make an unrestricted donation to the Combined Federal Campaign (CFC) or your local United Way, you might be inadvertently donating to groups working to promote animal rights groups' agendas or oppose the use of animals in research.

The CFC (for federal employees) and the United Way are umbrella organizations that funnel donations to philanthropic causes. Any nonprofit organization can apply for inclusion. If you visit the website of the CFC or your local United Way, it is striking to see the wide range of causes represented. What is even more striking is the fact that some of them represent diametrically opposing approaches to controversial issues. With respect to medical research, some of the organizations raise funds to support research on various diseases, while others work actively to oppose the use of animals in research.

When you give to a United Way or CFC campaign, you have the option to designate specific charities to receive your donations. If you do not designate recipients, your donation will be divided among all the participating organizations, based upon their proportionate share of designated funds from other givers. This means that by failing to designate a recipient organization, you have no control over where your money goes. You may well be giving to groups working for opposing ends!

It can be difficult to draw the line between organizations that promote legitimate concern for animal welfare and groups that strive to undermine research and other endeavors involving animals. As a general rule it is always good to know something about a charity before giving to it, especially since many groups have similar sounding names. Websites are a convenient way to get such information. The CFC provides a list with links to participating charities at <http://www.opm.gov/cfc/>. Similar links should also be available from the web site of your local United

Way. To find your local United Way's website, go to the search page at <http://www.unitedway.org/uwsearch/>. Then search using the under "field of service" using the category "humane concerns—animals" to get a list of the charities eligible to receive United Way funds in your area. You can get a sense of what an organization is doing by reviewing its mission statement, newsletter, action alerts, and issue briefs.

Below is a selection of the animal-related charities listed as part of the 2001 Combined Federal Campaign National List:

- Animal Legal Defense Fund
<http://www.ALDF.org>
- Animal Protection Institute
<http://www.api4animals.org>
- Animal Welfare Institute
<http://www.awionline.org>
- Doris Day Animal Foundation
<http://www.ddaf.org>
- Humane Society of the United States
<http://www.hsus.org>
- In Defense of Animals
<http://www.idausa.org>
- New England Anti-Vivisection Society
<http://www.neavs.org>
- People for the Ethical Treatment of Animals
<http://www.peta-online.org>
- Physicians Committee for Responsible Medicine
<http://www.pcrm.org>
- United Animal Nations
<http://www.uan.org>

Two controversial organizations included in the CFC are People for the Ethical Treatment of Animals (PETA) and the Physicians Committee for Responsible Medicine (PCRM). PETA states on its website that it "operates under the simple principle that animals are not ours to eat, wear, experiment on, or use for entertainment." PCRM's website states that it "advocates alternatives to harming animals for educational or research purposes" on the grounds that "alternatives to animal research can

provide more precise, cost-effective, and humane answers to human health questions and educational needs." Currently the two organizations are working in tandem to undermine the fundraising efforts of charities that support animal research.

PETA has posted a "do not give" list posted on its web site with more than 80 medical research and patient assistance organizations (<http://www.peta.org/mall/cc/ccchartest.html>). The list includes the Red Cross, March of Dimes, American Cancer Society, St. Jude Children's Research Hospital, Elizabeth Glaser Pediatric AIDS Foundation, Shriners Hospitals for Crippled Children and the Susan G. Komen Breast Cancer Foundation. Noting that health charities "do have relevant and effective projects that help improve lives," PETA asserts that agencies sponsoring animal research "drain money away from these projects and into cruel experiments on animals" and that these research projects "have no practical benefit to anyone."

PCRM has set up a special website at <http://www.charitiesinfo.org> with a similar list of charities that support animal research, as well as those that do not. The PCRM site "seeks to promote informed giving, advocate higher standards for ethics and effectiveness in health research, and enable the public to make sound, compassionate giving choices." It further clarifies its rationale as follows: "Many people do not realize that when they donate to a health charity, they may be helping to fund disturbing experiments that have little to do with helping those in need."

The bottom line is that if you don't designate a recipient for your charitable gift, your money may go to organizations that oppose medical research. The obvious solution is to designate the charities of *your* choice when you give!



APS Launches New Legislative Action Center

The APS has established a new Legislative Action Center on the web at http://www.the-aps.org/pub_affairs/leg_act_cntr/index.htm.

This site provides users with up-to-date news on issues that affect biomedical research. APS Members can also express their support for science funding and animal research issues using the "Take Action" option. This option involves special software that will assist APS members in sending letters to Congress. The first such letter, which is now available, expresses thanks to Representatives and Senators for past support of NIH funding and urges that this support be continued. As issues arise in the future, the APS Public Affairs Office will post additional letters.

In addition to this grassroots activism section, visitors to the site will find a guide to communicating with Congress, including advice on the most effective ways to get your message across to an elected official and how to prepare for a meeting with a Senator or Representative. Other resources include information about animals in research, essays detailing the benefits of biomedical research, and a special section with interesting news and findings. ❖

EB Features IACUC Session

The APS Animal Care and Experimentation (ACE) Committee will present a symposium at EB 2002 in New Orleans concerning the workings of Institutional Animal Care and Use Committees (IACUCs). This program will provide an overview of the IACUC process for review of animal research protocols. It is intended to be useful both for research scientists and IACUC members. The symposium, "Everything You Ever Wanted to Know about the IACUC But Were Afraid to Ask," will

be held on Saturday, April 20 from 1-5 PM in Room 213 of the Morial Convention Center in New Orleans. ACE Committee Chairman **John Stallone** will chair the session.

Speakers will include Molly Greene of the University of Texas Health Science Center at San Antonio (UTH-SCSA), who will discuss IACUC function and responsibilities. Stallone will discuss protocol review. **J.R. Haywood**, also of UTHSCSA, will give a presentation entitled, "Troubleshooting: Where Do We Go From Here?" Following each speaker's presentation there will be an opportunity to pose questions to representatives of NIH's Office of Laboratory Animal Welfare (OLAW), the USDA's Animal Care unit, and the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC), International. OLAW, USDA, and AAALAC are the major organizations responsible for oversight and accreditation of animal research facilities.

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

Those who would like to attend this session should contact Alice Ra'anan at araan@the-aps.org to register. Resource materials will be provided. Further information is available online at http://www.the-aps.org/meetings/eb2002/abs/pa_stallone.htm. ❖

Congress Still Working on FY 2002 Funding

As November approached, Congress continued to labor on funding legislation for the FY 2002 fiscal year that began October 1. Partisan wrangling was largely set-aside in the wake of the

devastating terrorist attacks of September 11. Nevertheless, progress on appropriations was hampered initially by the need to approve new legislative authorities to meet the threat of possible further acts of terrorism and then by complications ensuing from the discovery of anthrax on Capitol Hill. Continuing resolutions were used to keep the government operating through mid-November while Congress sought to complete its business. However, it seemed increasingly unlikely that legislative business could be wrapped up before Thanksgiving.

National Institutes of Health: The House approved its Labor-HHS-Education funding bill on October 11, ratifying the funding levels approved by the L-HHS-Education Appropriations Subcommittee the preceding week. The House provided the NIH with \$22.9 billion in FY 2002 or a 12.8% increase over FY 2001. Although this sum seems to be slightly below the 13.6% increase recommended in the President's budget, there was more to it than what meets the eye. The House bill includes a provision that would reduce by \$172 million the amount of funds that the Secretary of HHS can transfer out of NIH research to use for evaluation studies. Since evaluation funds come "off the top" of the NIH account, the amount available for research under the House bill would be the same as what was proposed by the President. The House bill would also continue to prohibit the use of federal funds for research involving human embryos but ratified President Bush's decision to permit stem cell research with existing stem cell lines. The committee report accompanying the legislation states that the embryo research ban "should not be construed to limit federal support for research involving human embryonic stem cells listed on an NIH registry and carried out in accordance with the policy outlined by the President."

The Senate version of the Labor-HHS-Education funding bill was

brought to the floor during the last week of October, but progress was constrained by amendments addressing a large number of contentious issues. The Senate Appropriations Committee approved its version of the bill on October 11, providing a \$3.4 billion increase to keep the NIH on the path to a five-year doubling. However, the Senate increased the amount of funds that HHS would be allowed transfer out of the NIH budget from one percent to two percent.

The Appropriations Committee report that accompanied the Senate version of the bill included a paragraph concerning systems and integrated biology. The Committee recommended "increased support for research and training in whole systems pharmacology, physiology, and other integrative biological disciplines." It noted that during the past two decades there has been increased support for research and training at the cellular and molecular levels but "diminished support for training and research in systems and integrated biology," which "threatens to slow the rate at which fundamental discoveries made at the cellular and subcellular levels are translated into useful therapies." The Committee also took note of the current reorganization of peer review taking place at NIH's Center for Scientific Review and expressed the hope that the CSR "will ensure that scientists with whole-systems expertise will be represented on those panels." Committee language is not binding but it is taken as an expression of congressional interest and concern.

National Science Foundation: Funding legislation for the National Science Foundation (NSF) and VA-Research was also moving toward completion. House and Senate conferees were working to resolve differences in FY 2002 funding for VA, HUD and Independent Agencies.

For the NSF, the House provided \$4.84 billion overall, an increase of \$414 million or 9.4 percent. This would include \$3.64 billion for NSF research,

an increase of \$300 million or 9.0 percent. The Senate provided only \$4.67 billion for the National Science Foundation, an increase of \$256 million or 5.8 percent. The Senate bill provided \$3.51 billion for NSF research, an increase of \$170 million or 5.1 percent.

VA Medical Research: The House provided \$371 million for VA Medical and Prosthetics Research, an increase of \$20.28 billion or 5.9 percent over FY 2001. The Senate provided \$390 million for VA medical and prosthetics research, an increase of \$39.8 million 11.4 percent or over FY 2001. ❖

Bills Would Impose Rigid Standards for Dog Socialization

Bills have been introduced in the House and Senate to provide improved conditions for dogs commercially bred as pets. However, this legislation would have the unintended consequence of interfering with breeding and conditioning dogs for research.

Sen. Rick Santorum (R-PA) introduced S. 1478, the Puppy Protection Act of 2001 on October 1. Rep. Edward Whitfield (R-KY) introduced a similar bill in the House. The legislation would amend the Animal Welfare Act (AWA) to require the USDA to promulgate "an engineering standard, including a written plan of activities, based on the recommendations of animal welfare and behavior experts, for the socialization of dogs to facilitate contact with other dogs and people."

Because of the way the bills were written, this provision would also apply to research facilities and to dealers who provide conditioned dogs for research. The legislation would impose a set of rigid requirements for socialization, in place of the more flexible "performance-based" standards that research facilities currently employ. Performance-based standards seek to achieve specific outcomes, in this case, the welfare of laboratory animals, but allow significant latitude in how those out-

comes are achieved.

Performance-based standards permit laboratory animal care staff and research scientists to exercise their professional judgment, and they also allow for innovation. Although Congress may determine that engineering standards are an appropriate remedy for problems in the pet breeding industry, this approach may interfere with the ability of research facilities to provide optimum care for their animals.

The Puppy Protection Act would also require "mandatory revocation" of the licenses of animal dealers or exhibitors who commit three or more violations of the AWA within an eight-year period. However, USDA inspectors cite as "violations" not only serious problems that could affect animals' lives or health, but also minor technical issues that are easily corrected. As currently written, the Puppy Protection Act could cause dealers to lose their licenses even if they have only committed minor, easily correctable violations of the AWA that had no bearing on the health and safety of the animals.

The broader impact of the "Puppy Protection Act" must be considered, and its provisions should be revised to exempt research facilities and breeders. ❖

ACLAM Foundation Announces 2001 Awards

The 2002 Request for Proposals for the American College of Laboratory Animal Medicine Foundation (ACLAM) is available on the ACLAM web site at <http://www.aclam.org>. The Foundation awards research grants to increase the body of knowledge in laboratory animal science and medicine. Scientists and laboratory animal veterinarians may apply for grants of up to \$20,000 from the Foundation. The application deadline is **February 5, 2002**.

The ACLAM web site has information about past Foundation grants, including the ones awarded this year.

The 2001 grants included the following topics:

- Post-surgical Analgesia in Fish
- Enhancement of Rodent Health Monitoring in Ventilated Cage Racks
- Pathogenesis and Transmission of Enterotropic Mouse Hepatitis Virus
- Cloning and Expression of the Guinea Pig Adenovirus (GPAV) Hexon Gene for Development of Serology Testing
- Validation of Bispectral Index as an Indicator of Surgical Anesthetic Depth in Pigs
- Measures of Cortical Function in Mice Following Cervical Dislocation, Decapitation and Potassium Chloride Injection. ❖

Lasker Award Nominees Sought

On October 20, 2001, the Albert and Mary Lasker Foundation announced a call for nominations for its 2002 Lasker Awards. The Foundation will accept nominations for its 2002 Albert Lasker Medical Research Awards from November 1, 2001 until February 1, 2002. Awards are given in three categories: basic research, clinical research, and special achievements. Lasker Awards Jury Chairman Joseph L. Goldstein would like, in particular, to expand the number of nominations for the clinical research awards.

The Lasker Award is sometimes called the "American Nobel Prize" because of the distinguished caliber of its recipients. The 2001 award ceremony was held September 21, 2001. The Basic Research Award winners were Mario Capecchi, Martin Evans, and Oliver Smithies. The Clinical Research Award went to Robert Evans, and the Public Service Award was presented to William Foege. More information about the award ceremony and this year's winners is available on the Lasker Foundation website at http://www.laskerfoundation.org/index_flash.html.

Award nomination forms will be available on November 1, 2001 and will

be posted on the Foundation's website at <http://www.laskerfoundation.org/awards/nominate.html>. Copies may also be obtained by contacting David Keegan at 212-286-0222, or via e-mail to dkeegan@laskerfoundation.org. Completed nominations must be postmarked no later than February 1, 2002.

President Signs Antiterrorism Bill: Could Have Implications For Medical Research

On October 26, 2001 President Bush signed into law a measure aimed at countering terrorism. Dubbed the Provide Appropriate Tools Required to Intercept and Obstruct Terrorism (PATRIOT) Act of 2001, this new measure grants federal authorities expanded surveillance and intelligence-gathering powers. However, certain elements would also affect biomedical research.

One provision of the law deals with the access and use of biological agents. Under the Act, possession of a biological agent, toxin or delivery system is a criminal offense except for situations "reasonably justified by a prophylactic, protective, bona fide research, or other peaceful purpose." But "bona fide" research is never fully defined.

This research exemption was inserted in the Senate version and was preserved in the final version at the urging of the academic and scientific community. On the Senate floor Senator Patrick Leahy (D-VT) remarked, "the 'bona fide' research exclusion may yet prove unworkable, unconstitutional, or both." Following the Senate vote on the bill, Senator Leahy hinted that additional work might be required to ensure the protections for research laid out in the bill are properly codified.

Another potentially problematic provision is the \$38 million authorization to enable the US to implement an electronic foreign student tracking system.

This provision, sponsored by Representative James Sensenbrenner

(R-WI), is intended to allow close monitoring of foreign students by giving broad-based powers to law enforcement authorities. Specifically, it amends the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 that requires full implementation of the foreign student visa monitoring system by January 1, 2003. The act requires the tracking system to integrate information when foreign students enter the country and further expands the system to cover educational institutions beyond traditional colleges and universities, such as flight schools, language training and vocational schools.

President Bush also issued a directive charging the Secretary of State and the Attorney General to develop a program to end abuse of student visas.

Under the President's October 31 directive, the Departments of State and Justice must establish a visa-monitoring program to "provide for tracking the status of a foreign student who receives a visa, "including whether the student is enrolled and in which classes, as well as the identification of the source of funds supporting the education." They must also develop guidelines to include limits on duration of student immigration status and "strict criteria" for renewal of student immigration status.

In addition, the directive states that the government will institute measures to prohibit certain students from receiving education in "sensitive" areas of study, including those, "with direct application to the development and use of weapons of mass destruction."

While the President's directive was clear that he wanted to prevent future abuses by foreign individuals studying in the US, he also reminded the nation that the US recognizes the contributions of international students to the nation's universities, saying, "they add greatly to the vitality and quality of our...institutions of learning."

Mr. Bush suggested that those in the academic community and other interested parties should be consulted in the development of this directive. ❖

Positions Available

Postdoctoral Positions

Postdoctoral Fellowship: A postdoctoral research fellowship position (two years) is available at Oregon Health & Science University to study the neuromodulatory effects of repetitive Transcranial Magnetic Stimulation (rTMS) on cortical excitability in patients with Parkinson's disease. The research focus is on the integration of basic physiological research with clinical intervention trials. The laboratory is equipped to perform image-guided TMS. Single, bi- and repetitive magnetic stimulators are available. The position is funded by a grant from NIH. Applicants must have received a PhD, an MD, or a comparable doctoral degree from an accredited domestic or foreign institution and be interested in pursuing an academic research career involving laboratory-based, clinical investigation. Individuals with background in cortical physiology, motor control and programming in C++ and LabView are preferred. The candidate will be expected to gain experience in preparing grants during his/her tenure. Salary is commensurate with experience according to NIH stipend levels. The fellowship can start immediately. Send cover letter, curriculum vitae and the names of 3 references to: Jau-Shin Lou, MD, PhD, Human Motor Control Laboratory, Dept of Neurology, 3181 SW Sam Jackson Park Rd, CR120, Portland, OR 97201, Phone 503-494-5236, fax 503-494-0966, or Email to Louja@ohsu.edu.

Postdoctoral Position: A postdoctoral position to study mechanogated ion transport in different endothelial phenotypes in the pulmonary circulation and its role in mechanical stress induced vascular permeability and lung pathology. The recruited candidate will join an electrophysiology group in a newly established NIH funded pulmonary vascular biology program emphasizing the

role of endothelial phenotypes in calcium signaling, cyclic nucleotide regulation and lung injury. Fluorescent microscopy, cell culture and gene transfer core facilities are available. Recent electrophysiology studies are included in: Wu et al. *J. Biol. Chem.* 275:18887-96, 2000 and Brough et al. *FASEB J.* 15:1727-38, 2001. The candidate should have patch clamp experience and knowledge of cell culture methods. Send curriculum vitae and names and addresses of three references to: Dr. James C. Parker, Department of Physiology, MSB 3024, College of Medicine, University of South Alabama, Mobile, AL 36688. Tel: 251-460-6826, Fax: 251-460-6464, Email: jparker@usouthal.edu.

Postdoctoral Position: The Joseph Stokes Jr. Research Institute, part of The Children's Hospital of Philadelphia, has opportunities available to work with the latest technologies and leading personnel. We have approximately 400,000 square feet of research space with funds for additional research space construction committed, and currently receive approximately \$65,000,000/year in extramural support. Many historical breakthroughs from Stokes have made Children's Hospital of Philadelphia an international pioneer in pediatric medicine. A postdoctoral position is available for a motivated and independent individual to study the molecular mechanisms of normal and neoplastic B cell development. Laboratory focus is on the basic helix-loop-helix transcription factor E2A that is required for murine B cell development and is implicated in human B cell leukemias. To study the mechanism, we have established an experimental system for manipulating the E2A activity in an inducible manner. Normal and mutated E2A are expressed in B cells using a novel MSCV/HIV hybrid lentiviral vector that efficiently transduces human hematopoietic precursor cells (Choi, et al. 2001. *Stem Cell* 19:236-46). Our

experiments indicate that E2A can induce multiple cell cycle regulatory proteins and promote B cell proliferation (Zhao, et al. 2001. *Mol. Cell Biol.* 21:6346-57). Multiple projects are planned to utilize this system to characterize E2A function in normal and neoplastic B cell development.

Qualifications: Eligibility for appointment requires an advanced degree, PhD, MD, or equivalent. It is the responsibility of the postdoc to certify that he/she has received his/her degree or has fulfilled the advanced degree requirements before the appointment is processed. Individuals with a background in molecular biology or immunology are preferred.

Please apply online at <http://careers.chop.edu> or fax your resume to 215-590-4644. Please use reference ID 50. You may also Email directly to dudleyn@email.chop.edu. The Children's Hospital of Philadelphia is proud to be an equal opportunity employer.

Postdoctoral Position: A self-motivated, organized individual will be a leader of academic research in the drug discovery laboratory of a major pharmaceutical company located in the suburbs of Philadelphia. This postdoctoral position, which is based in the Department of Physiology at Temple University School of Medicine, is immediately available. The main research focus is to study the role of oxygen radicals and endothelium-derived factors in the regulation of cardiovascular-renal disease including diabetes mellitus, renal failure, and hypertension. The applicant should have a PhD in physiology or pharmacology with experience using in vivo techniques. The ideal candidate will have good surgical skills, a strong publication record, and excellent communication skills. Please send a statement of research interests, curriculum vitae and three references to Irene Boyle, Temple University, OMS 224, 3420 N. Broad St., Philadelphia, PA 19140. [EOE]

Positions Available

Postdoctoral Position: Join one of the leading pediatric research facilities in the nation. With over \$65 million in research grants each year, The Children's Hospital of Philadelphia is a pioneer in pediatric medicine. An NIH-funded postdoctoral position is available immediately to study the structural basis of glutamate dehydrogenase allosteric regulation. Methods will include enzyme expression in *E. coli*, site-directed mutagenesis, enzyme kinetics and protein purification for x-ray crystallography. Ref.: *Clin Endocrinol Metab* 86:1782-1787, 2001. The Children's Hospital of Philadelphia offers competitive salaries, comprehensive medical/vision/dental/prescription plans, life insurance, employer contribution retirement plan, work/life benefits, and a firm commitment to staff development and education. Email to dudleyn@email.chop.edu or apply online at: <http://careers.chop.edu> or Fax your resume to 215-590-4644. You are also encouraged to send your curriculum vitae and names, addresses, phones and Emails of three references. Use reference ID 50 in all correspondence. [EOE]

Postdoctoral Research Position: Position available immediately at Watkins-Maier Behavioral Neurosciences Lab, Department of Psychology & Center for Neurosciences, University of Colorado at Boulder. Research focuses on how peripheral and central immune/glial activation alters pain. Present models include immune/glial activation in spinal cord and immune activation near a healthy peripheral nerve. Projects are multidisciplinary, involving behavior, cell culture, immunohistochemistry, molecular biology (RT-PCR, RPA, in situ), assays of immune/glial products, etc. Successful candidates will be expert in some of these techniques and eager to learn others. Must be highly motivated individual who enjoys working with a collaborative group. Salary commensurate with

experience. See our website for further information about our group: <http://psych.colorado.edu/~lwatkins>. Contact Linda Watkins, <http://psych.colorado.edu/~lwatkins>, Tel: 303-492-7034, Fax: 303-492-2967, Email: Lwatkins@psych.colorado.edu.

Postdoctoral Fellowship: A postdoctoral fellowship is available in the School of Physiology, University of the Witwatersrand, Johannesburg, South Africa. Requirements: PhD or equivalent level of research or scholarship, in the past three years, and demonstrable skills within one of the following research areas of the school: cardiovascular pathophysiology, sleep, pain, temperature regulation, fever, ecophysiology, invertebrate metabolism, salt and fluid balance, and exercise physiology. Research model: human or animal. Job description: collaboration with staff in a research group to develop new research areas. The School of Physiology of the University of the Witwatersrand is the largest and most productive physiology department in Southern Africa. It is well equipped and has access to excellent support facilities. The fellowship has a duration of one or two years and can start at any time of the year. Interested applicants are invited to contact: Prof. Helen Laburn, Fax: +27-0-11-643-2765; Email: 057helen@chiron.wits.ac.za

Postdoctoral Fellowship: A postdoctoral fellowship is available in the Department of Molecular, Cellular and Developmental Biology at Yale University. Our lab is interested in synapse formation and plasticity and is studying the role of dendritic protein synthesis in these two events. The requirements for the position are a PhD and demonstrated expertise in patch-clamp electrophysiology recording. We use primary neuronal cell culture, as well as slice physiology. The successful candidate will be well-skilled in electrophysiology with knowledge of, or

interest in learning, molecular and cellular techniques to alter and measure gene expression in neurons. Salary is commensurate with NIH pay scale. Please send cover letter and curriculum vitae to: Dr. David Wells, Dept. of MCDB, Box 208103, Yale University, New Haven, CT 06520-8103; david.wells@yale.edu, Fax: 203-432-6161.

Postdoctoral fellows/graduate students: Join a leading lab to study the cellular mechanisms underlying either the loss of skeletal muscle function with aging or the increase in chronic diseases with physical inactivity. Molecular, genomic, proteomic, biochemical, and physiological methods will be employed in a friendly laboratory setting located in one of the top university exercise programs (<http://www.cvm.missouri.edu/hac>) in the USA. Provide a statement of research interests and goals, CV, and names of three references to Frank W. Booth, PhD at boothf@missouri.edu.

Postdoctoral Fellow: Join one of the leading pediatric research facilities in the nation. With over \$65 million in research grants each year, The Children's Hospital of Philadelphia is a pioneer in pediatric medicine. This position requires a Doctoral degree in molecular biology or cell biology. The qualified candidate will have a background in molecular biology and will be interested in studying the genetic etiology of congenital heart disease. Our work involves the evaluation of candidate genes and the evaluation of the functional consequences of identified mutations. We will also begin to examine specific developmental pathways as they relate to cardiovascular development. We are working in collaboration with developmental biologists. The Children's Hospital of Philadelphia offers competitive salaries, comprehensive medical/vision/dental/prescription plans, life insurance, employer contri-

Positions Available

bution retirement plan, work/life benefits, and a firm commitment to staff development and education. Apply online at: <http://careers.chop.edu> or Fax your resume to 215-590-4644. Use reference ID 41 in all correspondence. [EOE]

Postdoctoral Research Fellowship: Muscle Research Laboratory, The University of Alabama at Birmingham (UAB) and VA Medical Center The Birmingham/Atlanta VA Geriatric Research, Education, and Clinical Center (GRECC) Muscle Research Laboratory and UAB Department of Physiology and Biophysics invite applications for a postdoctoral fellowship beginning July 1, 2002. Candidates with interest in age-associated sarcopenia and exercise interventions are encouraged to apply. Current studies involve: 1) mechanisms of myofiber hypertrophy in response to resistance training; 2) atrophic responses to aging, detraining, and unloading; and 3) mobility function. Experience with proteomics technology, immunohistochemistry and fluorescence microscopy, Western analysis, tracer infusions for muscle protein turnover, RT-PCR, and/or in situ hybridization studies would be beneficial. We also conduct clinical studies of strength, power, endurance, gait, balance, and mobility. Candidates must have a doctoral degree with expertise in physiology, cellular/molecular biology, or equivalent and must be committed to the application of basic science methods to clinical research questions requiring interaction with human subjects. Applicants may apply through the NIA-supported Clinical and Behavioral Gerontology Training Program at UAB directed by Dr. Karlene Ball. Send CV, copy of graduate school transcript, letter describing research plans related to aging, and 3 letters of recommendation to: Dr. Marcos Bamman, UAB Department of Physiology & Biophysics, GRECC/11G, VA Medical

Center, 700 South 19th Street, Birmingham, AL 35233. Fax 205-558-4749; Email mbamman@uab.edu. Application deadline is **January 4, 2002**. [AA/EOE]

Postdoctoral Training in Cardiovascular Research: Both NIH training grant and foundation-supported positions are available. Opportunities exist to study cardiovascular biology and disease in the laboratory of an NIH-funded investigator at the Mayo Clinic in Rochester, MN. Candidates with an MD or PhD may apply. American citizenship or permanent residency is required for the NIH training grant positions. Outstanding foreign applicants with previous research experience will be considered for foundation-supported positions. The faculty and research areas include: J.C. Burnett, Jr., MD, (the natriuretic peptides and other humoral factors in heart failure and atherosclerosis); M.M. Redfield, MD, (diastolic heart failure and humoral control of ventricular function in hypertension and heart failure); R.D. Simari, MD, (vascular biology and gene transfer for cardiovascular diseases); Lerman, MD, (endothelial function, coronary physiology and imaging); T.M. Olson, MD, (genetic basis of cardiovascular diseases); V.L. Roger, MD, (population studies of coronary disease); R.J. Rodeheffer, MD, (epidemiology of heart failure); A. Terzic, MD, PhD, (ion channel biology, bioenergetics and nuclear transport in the heart); V.K. Somers, MD, PhD, (neurohumoral, vascular and metabolic mechanisms linking normal and disordered sleep to cardiac and vascular disease). Salary is determined by the successful candidate's experience. An attractive benefit package is offered. Mayo Clinic Rochester is a non-profit, physician-led, clinical practice with education and research in a unified multi-campus system. Application, including curriculum vitae and bibliography, summary of past accomplishments, and the names of

three references should be sent to: M.M. Redfield, MD, Cardiorenal Laboratory, Guggenheim 9, Mayo Clinic, 200 First Street, SW, Rochester, MN 55905. Internet: <http://www.mayo.edu/research/>. [EOE/AA]

Research Positions

Senior Research Technician III - Molecular Genetics: A position is available for individuals interested in developing DNA microarray-based gene expression methods. The responsibilities of this position will include high-throughput PCR, RNA sample preparation, construction and analysis of cDNA microarrays. Applicants should have a BS/MS in molecular genetics or biology and must have four years of work experience. Please send resume and names and addresses of three references to: dudleyn@email.chop.edu. You may also apply online at <http://careers.chop.edu> or fax your resume to 215-590-4644. [EOE]

Senior Research Technician: Join one of the leading pediatric research facilities in the nation. With over \$65 million in research grants each year, The Children's Hospital of Philadelphia is a pioneer in pediatric medicine. A position is available for individuals interested in developing DNA microarray-based gene expression methods. The responsibilities of this position will include high-throughput PCR, RNA sample preparation, and construction and analysis of cDNA microarrays. Applicants should have a BS/MS in molecular genetics or biology and must have four years work experience.

The Children's Hospital of Philadelphia offers competitive salaries, comprehensive medical/vision/dental/prescription plans, life insurance, employer contribution retirement plan, work/life benefits, and a firm commitment to staff development and education. Apply online at: <http://careers.chop.edu>.

Positions Available

chop.edu or fax your resume to 215-590-4644. Use reference ID 50 in all correspondence. You may also Email your resume directly to dudleyn@email.chop.edu, or Fax to Vivian G. Cheung, MD, Department of Pediatrics, at fax number 215-590-3709. [EOE.]

Research Chairs, Department of Zoology, University of Toronto:

Outstanding applicants are sought for two tenure stream appointments, rank open. Evolutionary geneticist, preferably doing experimental work in population or quantitative genetics, to bridge existing strengths in the department in evolutionary and population biology. Experimental neurobiologist, preferably working on invertebrate systems using both physiological and molecular genetic approaches. The ideal candidate would interact profitably with strong existing groups in developmental biology and comparative physiology within the department. There is a large community of comparative physiologists, neurobiologists and developmental biologists at the University, with superb facilities for functional or comparative genomics/proteomics. We will nominate the successful applicants for Canada Research Chairs (Tier I or Tier II, as appropriate: <http://www.chairs.gc.ca>). These federally endowed chairs are open to all nationalities. Tier I Chairs are for prominent senior researchers; Tier II Chairs are for assistant and associate professors with extraordinary potential. The department plans three additional CRC appointments in comparative/evolutionary biology for 2002-3. By **December 14 2001**, candidates should send a curriculum vitae, statements on research and teaching, and have three recommendation letters sent to: Department of Zoology, Evolutionary Genetics or Neurobiology Search, University of Toronto, 25 Harbord St., Toronto, ON. M5S 3G5 Canada. Direct queries to: Locke Rowe (Evolutionary Genetics: lrowe@zoo.utoronto.ca) or Stephen Tobe (Neurobiology: stephen.tobe@utoronto.ca).

Information on the Department of Zoology can be found at <http://www.zoo.utoronto.ca>. 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.

Assistant Research Scientist: The Department of Internal Medicine, Pulmonary, Critical Care and Occupational Medicine Division, University of Iowa College of Medicine, is seeking an Assistant Research Scientist to perform basic research related to macrophage biology and molecular regulation of acute and chronic lung diseases. Requires a person in this classification have the academic knowledge of a discipline generally associated with a Doctoral degree, or an equivalent professional degree, i.e., MD, DDS, or DVM. In addition, such a person will have demonstrated the ability to plan and execute a research study through some progressively responsible independent research work. A PhD degree in immunology or molecular biology; and postdoctoral research and reasonable (1-3 years) experience in immunology and molecular biology is desired. Please send resume and cover letter indicating #44579 to: Carol Wehby, Human Resources, Internal Medicine, E400 GH, 200 Hawkins Drive, Iowa City, IA 52242-1081. Women and minorities are strongly encouraged to apply. [EOE/AA]

Assistant Research Scientist: The Department of Internal Medicine, Cardiovascular Diseases Division, University of Iowa College of Medicine, is seeking an Assistant Research Scientist to perform basic research to advance knowledge of

mechanisms involved in vascular dysfunction during hypertension, diabetes and atherosclerosis with an emphasis on the role of reactive oxygen species. The work will require expertise in theoretical and methodological aspects of vascular biology utilizing physiology, pharmacology, genetically-altered mouse models, adenoviral-mediated gene transfer, biochemical and molecular techniques and confocal microscopy. Requires a person in this classification have the academic knowledge of a discipline generally associated with a Doctoral degree, or an equivalent professional degree, i.e., MD, DDS, or DVM. In addition, such a person will have demonstrated the ability to plan and execute a research study through some progressively responsible independent research work. Desires a PhD degree in Pharmacology and/or Physiology; previous research experience in the area of vascular biology, hypertension and diabetes; in vascular physiology (particularly experience with murine blood vessels and cerebral circulation), molecular methods, and confocal microscopy. Please send resume and cover letter indicating #44583 to: Carol Wehby, Human Resources, Internal Medicine, E400 GH, 200 Hawkins Drive, Iowa City, IA 52242-1081. Women and minorities are strongly encouraged to apply. [EOE/AA]

Assistant Research Scientist: The Department of Internal Medicine, Pulmonary, Critical Care and Occupational Medicine Division is seeking an Assistant Research Scientist to perform basic or applied research in gene therapy including vector development and applications of developed technology in vitro and in vivo. Requires a person in this classification have the academic knowledge of a discipline generally associated with a Doctoral degree, or an equivalent professional degree, i.e., MD, DDS, or DVM. In addition, such a person will

Positions Available

have demonstrated the ability to plan and execute a research study through some progressively responsible independent research work. Desires considerable research experience in molecular biology and virology. Please send resume and cover letter indicating #44580 to: Carol Wehby, Human Resources, Internal Medicine, E400 GH, 200 Hawkins Drive, Iowa City, IA 52242-1081. Women and minorities are strongly encouraged to apply. [EOE/AA]

Research Technician: Join one of the leading pediatric research facilities in the nation. With over \$65 million in research grants each year, The Children's Hospital of Philadelphia is a pioneer in pediatric medicine. A BS Degree is required for this position, along with experience in Molecular and/or Cell Biology. At least 1-2 years experience is preferred. The Children's Hospital of Philadelphia offers competitive salaries, comprehensive medical/vision/dental/prescription plans, life insurance, employer contribution retirement plan, work/life benefits, and a firm commitment to staff development and education. Apply online at: <http://careers.chop.edu> or fax your resume to 215-590-4644. Use reference ID 41 in all correspondence. [EOE]

Cardiovascular Biologist: Ad Code: 5588HS/WWW/THAO. In this role, you will conduct research activities to characterize drug delivery from cardiovascular devices as part of a multi-disciplinary team in cardiovascular systems research. The successful candidate will interact closely with chemical engineers, polymer chemists and cardiovascular biologists to identify the characteristics of active compounds required to address unmet medical needs in a drug/device research program. A background in developing and conducting novel assays to identify drug interactions with devices, knowledge of biology and chemical mechanisms, a BS or

MS in biological chemistry and 2-3 years experience in assay development in a chemistry or biology laboratory is required. Data handling skills, recording of results experience and computer techniques are essential. A working knowledge of the cardiovascular system is helpful. Follow your aspirations to Abbott for diverse opportunities, competitive salaries, great benefits, a 401k retirement savings plan, a company paid pension plan and profit sharing, as well as growth and stability to build your future. For immediate consideration, please Email your resume to success@abbottcareers.com or forward it to: Abbott Laboratories, P.O. Box 549251, Suite 204, Waltham, MA 02454-9251. Please include the Ad Code in your email subject line and on all written correspondence. For more information, visit our website at www.abbott.com. An EOE, we are committed to employee diversity.

Pharmacologist/Physiologist: We are seeking a doctorate level individual with experience in the development and use of in vivo models of cardiovascular disease. The individual will be involved in small and large animal surgical preparations, focusing on measurement of standard hemodynamic parameters including blood flow and blood pressure. The position is part of a larger group of cardiovascular scientists dedicated to the development of novel chemical entities for the treatment of cardiovascular disease. Independent research and publication of scientific findings are encouraged. The position is located in new state-of-the-art facilities in Collegeville, PA, which provide a rural campus setting within easy commuting distance to major metropolitan centers. Please Email resume as an attached Word document to: robin-sp@war.wyeth.com or Fax: 484-865-9327.

Human Physiology: The Department of Integrative Biology at the University

of California, Berkeley, seeks a scientist who uses an integrative approach to lead a vigorous and innovative research program in some aspect of human physiology. We seek a colleague to join a department with a strong multidisciplinary emphasis, and to help the Berkeley campus develop its new Health Sciences Initiative. The ideal candidate will have a strong commitment to maintaining a vital research program, and to development of undergraduate and graduate curricula. The primary teaching responsibility will be in human organ and systems physiology with the expectation that courses and seminars in the area of specialization will be developed. The position will be filled at the non-tenured, tenure-track level, starting July 1, 2002. Applications, including a curriculum vitae, a list of publications, reprints of the three most significant publications, a brief statement of research and teaching objectives, and names and addresses of at least three referees should be sent to: Chair, Human Physiology Search Committee, Department of Integrative Biology, 3060 VLSB, University of California at Berkeley, Berkeley, CA 94720-3140. Applications must be postmarked by **December 17, 2001**. Early applications are encouraged. The University of California, Berkeley is an affirmative action/equal opportunity employer committed to excellence through diversity.

Perfusionist: A biopharmaceutical company focused on applying molecular cardiology to the discovery and development of novel, small molecule drugs, seeks to hire a Perfusionist to work in an animal research environment. This individual will be highly motivated and team oriented with at least six months experience in industry working with animals. The main activity will consist of isolated-perfused hearts and physiological/pharmacological experiments. As a member of the department of pharmacology, he/she will interact with members of other

Positions Available

departments at the company. Responsibilities will include isolated-perfused working rat heart and Langendorff heart preparations. Knowledge of physiology and a willingness to work with animals is essential. This individual will be working with radioactive isotopes. Good lab practices and attention to detail are necessary. It is also essential that the successful candidate have excellent verbal and written communication skills, be able to trouble shoot, think critically and possess good computer skills, including spreadsheets and word processing knowledge. The Perfusionist will be expected to maintain accurate records, report results and provide input for improving the efficacy and accuracy of company screening efforts. Assistance in the preparation of reports and abstracts for company journals and meetings will also be expected. This position is located in Palo Alto, CA. A BS/BA degree is required, as is a minimum of one year's experience working with laboratory animals and preferred skilled with Langendorff procedure. This company offers an excellent total compensation package, including competitive pay and benefits. For more information or to be considered for this position, please contact Jeannie Vranes at jeannie@setrensmallberg.com, re-garding 103.

Cardiovascular Scientist: (Ad Code: 5587HS/WWW/THAO) While interacting closely with chemical engineers and polymer chemists, the successful candidate will conduct research activities on novel drug candidates for delivery from cardiovascular devices, such as drug delivery stents, as part of a multi-disciplinary team in cardiovascular systems research. Responsibilities will include design of in vitro experiments, with an emphasis on vascular biology, to study drug/device interactions, including determination of the inflammatory responses associated with device implantation. Requirements for this position are a PhD in cardiovascular

physiology, vascular biology, biochemistry or biology, a minimum of three years experience in research activities in an active cardiovascular program and knowledge of the mechanisms associated with cardiovascular disease states, such as restenosis. A solid record of publication and innovation will be required. Proficiency with data acquisition systems and experience in guiding a technical scientist in completion of experiments is desirable.

Follow your aspirations to Abbott for diverse opportunities, competitive salaries, great benefits, a 401k retirement savings plan, a company paid pension plan and profit sharing, as well as growth and stability to build your future. For immediate consideration, please Email your resume to success@abbottcareers.com or forward it to: Abbott Laboratories, P.O. Box 549251, Suite 204, Waltham, MA 02454-9251. Please include the ad code in your Email subject line and on all written correspondence. For more information, visit our website at <http://www.abbott.com>. [EOE]

Faculty Positions

Tenure-Track Faculty Positions: Applications are invited for tenure-track faculty positions in the Department of Physiology and Biophysics at the University of Mississippi Medical Center. Applicants will be considered for ranks of Assistant, Associate, or full Professor and must have a PhD and/or MD degree with appropriate postdoctoral research experience. Special consideration will be given to candidates with strong backgrounds in genomics and molecular and/or cellular physiology, imaging, and research interests that complement existing areas of excellence in cardiovascular, renal, and neuroendocrine physiology, or the pathophysiology of kidney disease, hypertension, obesity, diabetes, and vascular disease. The successful candidate is

expected to develop a nationally recognized research laboratory supported by extramural funding and to contribute to the teaching and service missions of the department. The large group of cardiovascular scientists in the Department and in the Center of Excellence in Cardiovascular-Renal Research (CECR) offers excellent opportunities for collaboration at genomics, molecular, cellular, or systems levels of integration. For more information, the Physiology Department and CECR websites can be accessed at <http://phys-main.umsmed.edu> and <http://cecr.umsmed.edu>, respectively. Applicants should send a curriculum vitae, a statement of research interests, previous and current extramural research funding, career goals, and the names of at least three references to Dr. John E. Hall, Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS 39216-4505. [EOE][M/F/D/V]

Tenure-Eligible Faculty Position: A tenure-eligible faculty position at the rank of Assistant Scientist is available in the Division of GI/Hepatology, Indiana University School of Medicine, Indianapolis, IN, which is ranked top 14th nationally in the *US News & World Report* of 2000. Qualified applicants must have a PhD with over two years of postdoctoral research experience. Competitive compensation and start-up package are commensurate with experience. Candidates with expertise in ion transport, membrane trafficking, electrophysiology, signal transduction, and/or molecular biology are preferred. Candidates should submit a curriculum vitae and three letters of recommendation to: Won Cho, MD, Indiana University, Division of GI/Hepatology (111G), 1481 W. 10th St., Indianapolis, IN 46202. Tel: 317-554-0000, X4553; Email: wkcho@iupui.edu.

Physiologist. Biology Department, University of Pennsylvania. We seek a

Positions Available

physiologist who uses modern approaches (including, but not limited to, state-of-the-art biophysical, genomic, imaging, and modeling techniques) to explore physiological function at multiple levels of organization in animals. The area of specialty is open. The Biology Department is broad-based covering molecular and organismal function as well as ecology of animals, plants and microbes. The Penn academic community has strength in the following potentially relevant areas: Muscle biology, Neurosciences, and Genomics. The candidate will be expected to contribute to teaching animal physiology to undergraduates as well as in the area of their own specialty. We expect to make the appointment at the tenure-track Assistant Professor level, however, exceptional candidates could be considered at a higher rank. Please send CV and summaries of past accomplishments and future plans in research and teaching. Candidates at the Assistant Professor level should arrange to have three letters of reference sent. Consideration of applications will start on **December 15, 2001**. Please address correspondence to Physiology Search, Biology Dept., Leidy Labs, University of Pennsylvania, Philadelphia, PA 19104. Fax 215-898-8780. [AA/EOE] Women and minorities are encouraged to apply.

Professor: At the Institute of Exercise and Sport Sciences, University of Copenhagen, Department of Human Physiology, a position as professor in exercise physiology is open to appointment from August 1, 2002, or as soon as possible thereafter. The position is permanent and involves research and teaching in physiology and applied exercise physiology. Applicants must have a strong research background in metabolic or circulatory physiology related to exercise, and should also be qualified in aspects of applied exercise physiology, such as effects of training, environment or nutrition, on human

performance. By appointment decisive importance will be attached to the applicant's degree of documented scientific production at an international level, including research management, and teaching qualifications. Deadline for applications **January 2, 2002** at 12.00 a.m. Material received after this time will not be taken into account. Further information may be obtained from the Head of Institute Bodil Nielsen Johannsen, phone: 45-3532 1620; fax: 45-35321600, Email: Bnielsen@aki.ku.dk. This call for applications is an extract on which applications cannot be based. The full text can be found on: www.ku.dk/led/stillinger/.

Assistant Professor: The Department of Biology at the University of Wisconsin-Stevens Point is offering a tenure-track, nine-month faculty position in Animal Physiology. The UWSP is a four-year, primarily undergraduate, comprehensive university with an emphasis on undergraduate education. Primary responsibility will be undergraduate teaching averaging 24 credits per year. Teaching includes animal physiology, introductory biology, and seminar. There will be future opportunities to develop a course in area of specialty. Successful candidates will also be expected to maintain a research program, advise students and engage in other Department and University service. Involvement of undergraduates in research is strongly encouraged. Online course descriptions are available at www.uswp.edu/news/uwspcatalog/cbiology.htm. Broad training in zoology with coursework and dissertation in animal physiology required. PhD preferred, required before tenure decision. Demonstrated ability and commitment to undergraduate teaching. A successful grant history, publications, teaching experience and mentoring of undergraduate research are all desirable. Appointment date is August 27, 2002. Assistant Professor Biology (Instructor

if PhD is not completed). Salary commensurate with qualifications. Completed applications must include: 1) cover letter; 2) curriculum vitae; 3) one-page statement of teaching goals and philosophy; 4) three letters of recommendation; and 5) copy of all undergraduate and graduate transcripts. Applications, supporting materials and correspondence should be addressed to: Animal Physiologist Position, Attn: Dr. Robert Bell, Chair, Department of Biology, University of Wisconsin-Stevens Point, Stevens Point, WI 54481-3897. Phone: 715-346-2074; fax: 715-346-3624; email: rbell@uwsp.edu. Screening of applicants will begin on **November 26, 2001**, and continue until position is filled. [AA/EOE]

Assistant Professor: The Department of Biological Sciences seeks two assistant professors, tenure track, in the broad area of Integrative Biology, including organismal, developmental, and evolutionary biology. The successful applicants are expected to establish vigorous extramurally funded research programs involving graduate and undergraduate students and teach in an area of either physiology or phylogenetics. We are an interactive faculty, committed to combining externally funded research with excellence in teaching. Our focus is on molecular, cellular, and genetic approaches to investigate problems in a diverse range of organisms, and we seek individuals who complement and extend these interests. Competitive salary and start-up packages are available. Additional information about the department can be found at: <http://www.science.duq.edu/biology>. To apply, send a cover letter, CV, names and contact information of three references, and statements of research and teaching goals to Dr. Joseph McCormick, Faculty Search Committee Chair, Department of Biological Sciences, Duquesne University, Pittsburgh, PA 15282. Review of appli-

Positions Available

cations will begin **December 10**. Founded by the Holy Ghost Fathers, Duquesne University is Catholic in mission and ecumenical in spirit. The University values equality of opportunity both as an educational institution and as an employer.

Assistant Professor. School of Exercise, Leisure and Sport at Kent State University. Tenure-track Assistant Professor of Exercise Science with expertise in Exercise Physiology to start August 2002, in the School of Exercise, Leisure and Sport at Kent State University. The successful candidate will teach advanced courses in exercise physiology, and serve as research and academic advisor to masters and doctoral students. Required: PhD; post-doctoral experience; strong background in, and ability to teach Experimental Design and Statistics to undergraduate and graduate students; and, research competency demonstrated by published research in the applicant's area of specialization. Research interest should complement the research of current faculty in applications of metabolism and nutrition, cardiovascular and environmental physiology, body composition, and the interaction of psychological and physiological function. For more information see <http://dept.kent.edu/sels>. To apply: submit a letter of application, curriculum vitae, three letters of reference and five refereed articles that represent research focus to: Dr. David MacLean, School of Exercise, Leisure and Sport, Kent State University, P.O. Box 5190, Kent, OH, 44242-0001. Review of applications will begin **January 14, 2002**, and continue until the position is filled. Appointment subject to final budget approval. [EOE/AA]

Assistant Professor: The Department of Biological Sciences at Wellesley College has available an entry-level, tenure-track position in animal systems physiology to begin July 1, 2002. Teaching responsibilities would include

introductory organismal or human biology, an intermediate physiology course, and an advanced course in the candidate's area of specialization. Candidates with expertise in the areas of systems physiology, environmental/ecological physiology, or endocrinology are of particular interest. The successful candidate must have a commitment to teaching excellence, and will be expected to develop a research program that involves undergraduates and to compete for extramural funding. Qualifications include a PhD and post-doctoral training. Interested individuals should send curriculum vitae, a list of undergraduate and graduate biology courses completed, statement of research and teaching interests, and three letters of recommendation to: Dr. Barbara S. Beltz, Department of Biological Sciences, Wellesley College, Wellesley, MA 02481 (bbeltz@wellesley.edu). Applications will be reviewed as they are received; early application is encouraged. Wellesley College is an Equal Opportunity/Affirmative Action educational institution and employer; successful candidates must be able to work effectively in a culturally diverse environment. Applications from women, minorities, veterans, and candidates with disabilities are encouraged.

Assistant/Associate/Full Professor: The Vanderbilt University School of Medicine, Department of Anesthesiology invites applications for tenure-track faculty positions at the assistant, associate and full professor levels from individuals working in the areas of ion channel and transporter physiology and molecular biology. Candidates must have a PhD and/or MD degree and a record of excellence and innovation in research. We seek outstanding scientists who will develop independent, extramurally-funded research programs that will contribute to the department's and Vanderbilt University's rapidly growing strength in membrane biology. Current research interests in the department

include functional genomics of ion channel/transporter physiology in model organisms (*Curr. Biol.* 11:161-70, 2001), structure/function of Na⁺ and K⁺ channels (*Nature* 409:1043-7, 2001), and function/regulation of CNS cation-chloride cotransporters (*Nat. Genet.* 22:192-5, 1999). Vanderbilt University offers an outstanding interactive research environment with state-of-the-art core facilities. Salary and start-up packages are highly competitive and commensurate with experience. Applicants should send a curriculum vitae, representative reprints, the names of three references and a statement of research interests and future research plans to: Faculty Search Committee, Anesthesiology Research Division, T-4202 Medical Center North, Nashville, TN 37232-2520.

Assistant Professor: The Department of Human Biology and Nutritional Sciences at the University of Guelph invites applications for a tenure-track position at the Assistant Professor level in the area of Biodynamics. Applicants should have a PhD or equivalent with postdoctoral experience in Biomechanics, Physiology or a related field. The successful candidate's responsibilities will include effective undergraduate teaching in anatomy as well as development of courses in Biomechanics, advising on undergraduate projects and theses, and the development of an externally funded research program. Clinical research experience would be beneficial. The Department of Human Biology and Nutritional Science offers undergraduate BSc programs in Biomedical Science, Human Kinetics, and Nutritional Sciences that have a total enrollment of 600 students. The department presently offers MSc and PhD degrees and is firmly committed to graduate education. Applications for this position should include a curriculum vitae, 2 representative publications, documentation of teaching abilities, and the names of 3 referees. Applications

Positions Available

will be accepted until the position is filled. Electronic versions of application materials may be submitted on 3.5" diskette (PC) in Word Perfect or Email: alovett@uoguelph.ca. Applications or requests for further information should be sent to: Chair of the Search Committee, Department of Human Biology and Nutritional Sciences, University of Guelph, Guelph, Ontario, Canada, N1G, 2W1; Fax: 519-763-5902. Review of applications will commence **January 30, 2002**. For information about the University of Guelph, please visit www.uoguelph.ca. All qualified candidates encouraged to apply; however, Canadians and permanent residents will be given priority. This appointment is subject to final budgetary approval. The University of Guelph is committed to an employment equity program that includes special measures to achieve diversity among its faculty and staff. We therefore particularly encourage applications from qualified aboriginal Canadians, persons with disabilities, members of visible minorities and women.

Assistant, Associate, or Full Professor: The Medical College of Georgia, a unit of the University System of Georgia, invites applications for tenure-track positions in the Department of Physiology beginning July 1, 2002 or thereafter. A DVM, MD, or PhD with postdoctoral research experience is required. Successful candidates are expected to establish active independent programs of extramurally funded research in the areas that complement the research strengths and goals of the department in cardiovascular physiology or neuroscience. Applications are also expected to have teaching experience and be committed to teaching students in the schools of medicine, allied health sciences and graduate studies. For consideration, applicants should submit a curriculum vitae, a statement of research interests and three letters of reference to: Dr. Ralph C. Kolbeck,

Search Committee, Department of Physiology, Medical College of Georgia, Augusta, GA 30912-3000. Our review of applications will begin on **February 1, 2002**. Information about the department can be obtained at: www.mcg.edu/SOM/PhyEndo/index.html. [AA/EOE]

Assistant Professor: The division of Cardiovascular Medicine is seeking applications for a position as Assistant Professor with expertise in basic research in cardiovascular biology. We are particularly interested in recruiting individuals with strong expertise in molecular genetics and in murine models of cardiac myopathies. Candidates should have a PhD degree, a clear record of scientific excellence, and must hold or be competitive for external research funding. The successful individual will be expected to have an independent research program and to participate in teaching of graduate, postgraduate and medical students. The Division has related research programs in exercise, vascular biology, cardiac metabolism, and cardiac ion channel regulation. Send letters, with complete curriculum vitae, names and addresses of three references to: Ann C. Bonham, PhD, Chair, Cardiovascular Medicine Faculty Search Committee, c/o Terri Bradley, Division Manager, University of California, Davis Medical Center, Division of Cardiovascular Medicine, 4860 Y Street, Suite 2820, Sacramento, CA 95817. Positions are "Open until filled," but not later than **February 28, 2002**. The University of California is an Equal Opportunity/Affirmative Action Employer.

Assistant Professor: Assistant professor in Human Physiology with expertise in clinical research that must be conducted at our General Clinical Research Center. Applications are invited for a tenure-track position in the Department of Kinesiology and Applied Physiology at the University of Colorado at

Boulder. A description of the department and the university is available on our website (<http://www.colorado.edu/kines>). Applicants must have completed postdoctoral training and be able to provide evidence of an ability to obtain extramural grant support. Teaching experience is desirable. Send a current curriculum vita, three reference letters, and three recent publications to the Search Committee, Department of Kinesiology and Applied Physiology, University of Colorado, Boulder 80309-0354. Additional information can be obtained by phone 303-492-3122, fax 303-492-4009, or Email melanie.evans@colorado.edu. Review of the applications will begin on **December 1, 2001** for a start date of August 15, 2002. The University of Colorado at Boulder is committed to diversity and equality in education and employment.

Assistant Professor: The Department of Biological Sciences at Ohio University seeks to fill three full-time, tenure-track positions at the Assistant Professor level beginning Fall, 2002: two positions in molecular cell biology and one in molecular physiology. We seek candidates who use molecular approaches to address fundamental questions in cell biology and physiology. A doctorate in cell biology, physiology, or a related area, postdoctoral research experience, and evidence of scholarly research achievement are required. Candidates are expected to develop an independent, fundable research program. Strong institutional research support includes a new, 70,000 square foot Life Sciences building, a transgenic mouse facility, DNA sequencing and hybridoma facilities, scanning and transmission electron microscopes, a confocal microscope, NMR and mass spectrometers, a fluorimeter, and a fluorescence-activated cell sorter. A successful applicant will teach in the area of his or her specialty, contribute to undergraduate courses,

Positions Available

develop a graduate course, and participate in development of an upper level laboratory course. Salary, benefits, and start-up funds are competitive. Further information about these positions can be found at <http://www.biosci.ohiou.edu> and <http://www.cas.ohiou.edu>. Please submit a letter of application, curriculum vitae, summaries of research program and teaching interests/philosophy, and the names, postal addresses, Email addresses, and phone numbers of three references to Don Holzschu (Cell Biology applicants) or Ralph DiCaprio (Physiology applicants), Department of Biological Sciences, Ohio University, Irvine Hall, Athens, OH 45701-2979. Review of applications will begin on **December 3, 2001**. Women and minorities are especially encouraged to apply. [EOE/AA].

Assistant Professor: The Division of Life Sciences at the University of Toronto at Scarborough seeks a candidate for a new position in Vertebrate Biology. This is a tenure-stream position at the level of Assistant Professor. Applicants must have a PhD (or equivalent), and preferably some postdoctoral experience. The successful candidate will be provided with significant start-up funds, and will be expected to secure external research support and to establish an active research laboratory with graduate students. The primary teaching responsibility will be in Human Physiology and Anatomy and is part of a standard teaching load of 1.5 full course equivalents per year. This and other courses will contribute to a proposed new program in Human Biology and to the major and specialist program in Biological Sciences. For information on research and teaching strengths in the Division, please consult the Divisional website: <http://www.utsc.utoronto.ca/~lifesci/index.html>. Interested applicants should submit a complete curriculum vitae (that should include individual statements of research and teaching interests) and a

copy of recent reprints, and arrange to have three letters of recommendation (including comments on teaching ability, publications and research potential) sent from the referees. All materials should be addressed to: Professor John H. Youson, Chair, Division of Life Sciences, University of Toronto at Scarborough, 1265 Military Trail, Scarborough, Ontario, M1C 1A4. Closing date for applications is **January 30, 2002**. Salary will be commensurate with qualifications. The position will be effective July 1, 2002. 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.

Full/Associate/Assistant Professor Molecular Biology and Animal Physiology: 2 positions. Starting date August 16, 2002. Molecular Biology: Teach undergraduate courses in molecular and cell biology (such as biochemistry, cell biology, genetics, molecular genetics, microbiology, and introductory biology) that integrate biomedical and comparative perspectives. Physiology: Teach undergraduate courses in animal and human physiology and related areas such as anatomy and introductory biology that integrate biomedical and comparative perspectives. In addition the successful candidates will be expected to develop externally-funded research programs that include undergraduates, develop and supervise community-based activities that include undergraduates, such as internships and research collaborations, participate in academic year and summer programs that recruit and retain students from groups historically underrepresented in biology, and provide academic and career advising for undergraduate students, especially those seeking careers

in biomedicine and biotechnology. Applicants must have a doctoral degree in animal physiology, molecular biology, or a related field and a record of research and teaching commensurate with appointment at assistant/associate or full professor rank. We seek candidates with demonstrated skill in undergraduate teaching that integrates biomedical and comparative approaches, a record of research appropriate for undergraduate participation, and evidence of mentoring women and minority students in biology and supervising community-based activities that incorporate undergraduate students.

Send 1) a letter of application that specifies the position for which you are applying and includes a description of your professional background and goals, 2) a statement of teaching philosophy and experience, 3) a description of current and future research plans that emphasizes participation by undergraduates, 4) a curriculum vitae with Email address, and 5) the names, addresses, telephone numbers, and Email addresses of three references to Chair, Department of Life Sciences, College of Arts & Sciences, attn: Brian Richardson, Mail Code 3051, Arizona State University West, PO Box 37100, Phoenix, AZ 85069-7100. Review of applications will begin **October 29, 2001** and every second Monday thereafter until the positions are filled. [AA/EO]

Assistant Professor: The University of Colorado at Denver seeks a tenure-track assistant professor of animal physiology PhD physiologist to begin August 12, 2002 (PhD in hand by this date). We will begin review on **December 15, 2001**. Send 1) a letter of application, 2) a current curriculum vitae, 3) a statement of teaching goals, 4) a statement of research goals, and 5) three recommendation letters to: Dr. Brad Stith, University of Colorado-Denver, Physiology Search Committee, Biology (CB 171), PO Box 173364, Denver, CO

Positions Available

80217-3364. For more information, see: <http://carbon.cudenver.edu/public/biology>. With about 500 undergraduate and 25 Master's students, the Biology department offers undergraduate and Master's level degrees. Teaching (two courses per semester) will include human physiology, courses in your area of expertise (such as comparative, ecological, or environmental physiology) and supervision of research students. Applicants should have demonstrated interest in undergraduate teaching, and be enthusiastic about establishing an independent research program suitable for undergraduate and Master's student participation. Postdoctoral research and prior teaching experience are highly desirable qualifications. The University of Colorado-Denver is located in an historic section of downtown Denver and has been selected as one of the "200 best colleges for the real world" by Octameron Associates. [EEO/M/W/D/V]. The University of Colorado at Denver is an equal opportunity employer and educator committed to excellence through inclusiveness. The Colorado Open Records Act (C.R.S. 24-72-204) requires a written request for confidentiality at the time of application. Applications without a written request for confidentiality may be required to be disclosed.

Assistant Professor: The Biomedical Sciences Department at Southwest Missouri State University invites applications for a tenure-track assistant professor position beginning August 12, 2002, to teach courses in human physiology, neurobiology, and introductory human biology. Evidence of recent extramural research funding preferred. Earned PhD, substantive teaching experiences, excellence in teaching effectiveness at the university level, and development of an independent research program involving undergraduate/graduate students required. Postdoctoral research experience and strong background in laboratory techniques

preferred. Send letter of application, curriculum vitae, statements of professional goals and research/teaching philosophies, copies of academic transcripts, two recent publications, and three letters of reference by **December 1, 2001**, to: Dr. Benjamin Timson, Department of Biomedical Sciences, Southwest Missouri State University, 901 S. National, Springfield, MO 65804-0094. Detailed position information available on website: <http://www.smsu.edu/contrib/bms/biomed.html>. [AA/EOE]

Assistant Professor: The School of Pharmacy invites applications for a tenure-track faculty position at the level of assistant professor of pharmacology. We seek an individual who employs molecular or cellular approaches to study the regulation of cardiovascular function in normal or disease states. The successful applicant is expected to develop an externally-funded research program that compliments existing areas of research: gene analysis of heart and brain after myocardial infarction, neural systems controlling blood pressure, hypoxia sensing mechanisms, and dietary salt effects on blood pressure regulation. Qualifications: must have a PhD (or equivalent) and postdoctoral experience, and demonstrated expertise in the use of cellular/molecular approaches to study cardiovascular function. Approaches might include, but are not limited to, the use of transgenic and/or knockout animals in which genes are inactivated or substituted to provide information about CNS control of cardiovascular function; molecular pharmacology of receptor systems in brain, heart, or vasculature and the effects of cardiovascular pathology on receptor structure and function, DNA microarray technology to study cardiovascular function. The successful candidate will be expected to be a member of the NIH-funded Cardiovascular Center of Biomedical Research Excellence and contribute to teaching pharmacology to

pharmacy students. The position also provides an opportunity to teach first-year medical and nursing students, and to teach and direct graduate students in the Neuroscience Program and other interdisciplinary graduate programs. Send a letter explaining your research interests, vitae, representative publications, and three letters of recommendation to: Search Committee, Cardiovascular Pharmacology, School of Pharmacy, University of Wyoming, Laramie, WY 82071. Review of applications will begin **December 1, 2001** and continue until the position is filled. [AA/EEO]

Chairperson: Department of Biochemistry and Molecular Biology. The Medical College of Georgia is seeking a prominent biochemist/molecular biologist to be the next Chair of the Department of Biochemistry and Molecular Biology. The ideal candidate would have a PhD, MD, or MD/PhD degree in a relevant field, an internationally recognized research program, and a sustained record of peer-reviewed funding. The Chair will provide intellectual leadership and direction for the Department, interact with other basic and clinical departments/institutes/-programs on campus and elsewhere within the University System of Georgia, and maintain a strong research and educational program. Cutting-edge research facilities exist within the department and elsewhere on the MCG campus. Resources are available for development of the department and recruitment of additional faculty. The department has a PhD program and participates in a newly established combined admissions process administered by the School of Graduate Studies. The department also participates in the system wide MD/PhD program. Regular and adjunct faculty have current combined extramural support of approximately \$4 million per year. Priority will be given to a candidate who will bring innovative biochemical and molecular approaches to bear in one of the scientific areas that

Positions Available

have been identified as having significant strengths at MCG. These include, among others, developmental biology, neuroscience, gene regulation, epithelial cell biology, cardiovascular biology, cancer biology, sickle cell disease and hematopoiesis, and vision research. The applicant should send a letter of application with a curriculum vitae to: R. Clinton Webb, PhD, Chair, Biochemistry and Molecular Biology Search Committee, Department of Physiology, Medical College of Georgia, Augusta, Georgia 30912. Electronic applications should be submitted to the following Email address: biochemchair@mail.mcg.edu. Review of applications will begin on **December 1, 2001**. The Medical College of Georgia is an Equal Opportunity Employer. Women, minorities, and the disabled are encouraged to apply. (ACH# 37909; E-02171488).

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 immediately upon receipt until the deadline has past.

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/car_pos_avail.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 Comley (Email: lcomley@the-aps.org; phone: 301-530-7165; fax: 301-571-8305).

APS to Sponsor 2002 Mass Media Fellowship

For the fourth consecutive year, APS will sponsor an American Association for the Advancement of Science (AAAS) Mass Media Science and Engineering Fellow for summer 2002. Applications are due to the AAAS by **January 15, 2002**.

The APS-sponsored fellow will be one of approximately two dozen AAAS Mass Media fellows who will spend 10 weeks during the summer working in the newsrooms of newspapers, magazines, Internet news outlets, or radio or television stations. Fellows will receive a short training course in science journalism prior to the fellowship, and will spend the summer developing their ability to communicate complex scientific issues to non-scientists and improving public understanding of science. The AAAS arranges placements at participating media outlet as part of the selection process. The

fellowship includes travel to Washington for orientation and evaluation sessions at the beginning and end of the summer, as well as travel to the job site and a weekly stipend based upon local cost of living.

Individuals must be currently enrolled as a graduate or postgraduate student of physiology or a related discipline to apply for the APS fellowship. The application form is available in the "Awards for Students" section of the APS website at http://www.the-aps.org/awards/awd_student.htm#AAAS. Additional fellowships are available for students in other scientific and engineering disciplines. Information about the program is posted on the AAAS Education and Human Resources Directorate website at http://ehrweb.aaas.org/ehr/3_4_0.htm. A brochure with additional information about the program is also posted

on both web sites.

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

The application deadline is **January 15, 2002**. For more information or to receive a copy by mail, contact Alice Ra'anani in the APS Office of Public Affairs. (Telephone: 301-530-7105; e-mail: araanani@the-aps.org.)

News From Senior Physiologists

Letters to Eugene Renkin

Silvio Weidmann writes: "I felt rather proud to get a hand-written birthday letter by a winner of the 1985 Wiggers Memorial Award. This brought my thoughts back to 1955 when in connection with a seminar I had given in Cleveland, Carl Wiggers invited me for a drink to his house and to the World Exhibition in Brussels, 1958, which we had visited together.

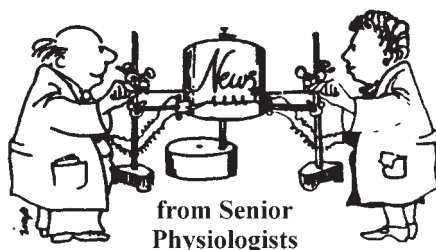
"Having reached 80 years of age, my laboratory activities are down to zero. Thanks to the benevolence of my colleagues I still have a desk and, equally important, a parking space in front of my former institute. In fact, my interests in Cardiac Cellular Electrophysiology has come down to listening to about one talk per week, to seep through the abstracts of some preferred journals and to have lunch once in awhile with one or the other of my former co-workers. Taking part in meetings outside Bern has become impracticable since my leg muscles refuse to let me climb a railway coach. Also, my kidneys have deteriorated; dialysis twice a week helps to a certain extent. Much of my remaining time is now filled by amateur radio (on the air since 1938, call sign HB9DI).

"Now my possible advice to junior physiologists: make efforts to get away from your home university for a few years, to work in different surroundings. This will fasten your independence when eventually returning, professionally, as well as in your family. It will also widen your circle of acquaintances, and, thus, facilitate contacts at a later stage of your career."

Joseph C. Greenfield writes: "I apologize for not answering your letter earlier.

"At any rate, I'm doing fine. My 70th birthday ended my tenure as a clinician at Duke; however, I have maintained my James B. Duke Professorship and have transferred my clinical activities to the Durham Veterans Administration Hospital.

"In December 1998, I closed my research laboratory, transferring most of



the equipment etc., to Dr. George Cooper, who has a very active research program at MUSC in Charleston, SC.

"I am currently continuing to participate in a number of clinical research projects and am actively involved in mentoring the Cardiology fellows.

"Finally, and most important, I'm having a good time."

Letters to Douglas G. Stuart

L. A. Geddes writes: "Thank you for the 80th birthday card and letter. In response to your letter that inquired about my activities, I am pleased to offer the following.

"In 1991 I had to retire because of Purdue University regulations. However, I have been quite active in my 10 years of 'retirement.' I created and taught two new courses (Medical Device Accidents and Bioelectrodes), and I teach in one other course (Problems in the Measurement of Physiological Events).

"Since 1991 I have published 109 scientific and conference papers, three books, eight book chapters and have been issued eight US patents.

"Long before I 'retired,' I became an Expert Witness, specialized in medical device accidents and patent infringement. I am a Board Diplomate of the National Academy of Forensic Engineers with the rank of Fellow.

"Since 'retirement,' I have had six grants awarded and graduated four MS and PhD students. At present, I have one PhD student and two ongoing research projects. I have two grant applications in review.

"My hobby has always been the history of science. I continue research and publishing in this area. One of my

efforts, *The History of Stimulation and Electrotherapy*, was a monograph published by the APS."

Björn Folkow writes: "Thanks for letter of June 25. It found me in good health yesterday, after three weeks in our hut in Vrådal, Telemark, Norway, where we since 40-or-so-years spend summers and occasional Easter holidays. Land and seascape excellent, fishing good, mountain hikes, too, with, so far, no confrontations with bears (who visited 'our' island two years ago). We will return there for another three weeks in early August then for berry and mushroom picking, and to raise hell for occasional trouts.

"Still 'active,' though hardly in physically-exploring-rats-or-cats, but trying to 'link-up the many loose ends' that one has around after by now 58 years in physiology, i.e., trying to make sense of diverse findings by going from analysis-reductionism over to synthesis-integration (which, after all, is our occupation's perhaps most important part, when all other branches concentrate on finding new building bricks that heap up as time goes by). Also teaching students, when it comes to such aspects as 'physiology of aging' (one has to experience itself to be a real expert), the biological mechanisms behind so-called stress disorders, exercise physiology, and so on, i.e., themes where one must operate with several balls in the air at the same time. So far the students have not thrown me out, but that day will sure enough come.

"I have an office in the department, and am the only one still using an old fine IBM typewriter (not stoneage-variant but one run by electricity, mind you) and using it just now. I had just a survey-article out of *Scand. Cardiovascular Journal*, named 'Mental stress and its importance for cardiovascular disorders; physiological aspects, from-mice-to-man.' At least the editor said that he was very pleased and I am, so far at least, not displeased over it, which perhaps tells more about my mind than

News From Senior Physiologists

about the quality of the article. Anyhow, I am busy, and am confronted by a September 30 deadline for an article to *Handbook of Hypertension*, which already now disturbs my sleep, but I try to get going.

“Otherwise I am in good physical shape, enjoy outdoor life, hiking, fishing, running, rowing, and in terms, play indoor-soccer, where the two teams have an average age of 68.5 years, but their mental-emotional age, while playing, is about 8.5 years. I know, because I am also the referee of the games and, as such, exposed to the wildest abuses of temperaments from ordinarily solid-old-pensioners. It takes a special talent to be both referee and active-player, but it has the advantage that all goals that I happen to make are always accepted. I am home for a stint of work, and allowing our five children and their families to also use said Norwegian hut, while lake waters are warm and pleasant. Also preparing for participation in the 16th World Congress of Psychosomatic Medicine, which will be held here in Göteborg at the end of August, and where my retired but very active friend and professor in Internal Medicine, Per Björntorp, and I, will try to run a symposium on ‘Stress and genetics in the pathophysiology of primary hypertension and the Metabolic Syndrome.’ Thus, quite a lot to do, but 50 percent of this depends on the well-known fact that the cerebral computer inherently gets sluggish along with use and years, which is experienced as if all clocks have doubled their speed in completing an hour. I, at an occasion like this, also want to send my best and warmest regards to other ‘old-timers’ friends in the US domain, like John Pappenheimer, David Bohr, Paul Johnson, Ralph Sonnenschein, Gene Renkin, Stevo Julius, Bill Manger, Gabriel Pinter, John Shepherd, Arthur Guyton, James J. Smith, and many others, though then of later vintages that with time may well outmatch those around 1920 (± 5 years). Remember, in these days of molecular biology, inte-

grated physiology is more important than ever because if there is no one around knowing how to put the bits together, biomedicine will end up as heaps of sophisticated bricks, with no one around to make a functional building out of it.

“Thus, courage, and enjoy your work.”

Letter to Novera Herbert Spector

Juan E. Quejada writes: “The feature ‘News From Senior Physiologists’ in *The Physiologist* is very inspiring. I often wondered what I could share when my turn comes. And now your most pleasant letter.

“What am I doing now? Twice a month I continue my volunteer service at the hospital to monitor the ongoing longitudinal study on craniofacial and dental growth and development. We are on the third year of a 10-year project to develop norms for Filipino children. The information will be useful in preventive and interceptive orthodontics. Yesterday I was replaced as co-chair of the hospital’s Institutional Review Board. I continue to serve as volunteer orthodontic consultant in a private Craniofacial Center Foundation. We started as a Cleft Lip and Palate Center in 1988 in a charity hospital. Some unique findings are: clefts of the lips/palate occur in 1:400 live births; prevalence in twins and parent/child; anterior meningoceles are more common than posterior type usually found in a Caucasian population.

“On scientific or other writing: Limited to periodic reports on the research project. The poet William Cullen Bryant’s *Thanatopsis* ever in my mind, without feeling morbid, but as a motivation to keep the ‘computer’ between my ears active, I am collecting spiritual anecdotes. I hope to compile a year-long daily spiritual reading as ‘food for the soul.’

“On words of wisdom to pass: ‘As you go up the ladder, remember those you pass for you will meet them again when you come down.’ Get active in

APS affairs soonest!

“On whereabouts: My wife (she retired as Chair of pathology at the Philippine Heart Center) and I have been empty-nesting in Quezon City (Manila suburb) since 1987. We hope to continue our yearly trips to visit seven grandchildren, all in the US. And two of them are in Oceanside, CA! Grandchildren are the best excuse for travel. Of our five children, only one lives here. He is a secular priest. The only other unmarried child is a third-year fellow in hematology-oncology at Loyola in Chicago.

“On interests: I ‘tinker’ with personal computers, ie, repair. Five years ago I completed a US-based correspondence course in PC servicing. Discarded PCs are made serviceable for use by children in low-income communities to learn computer basics.”

Letter to Edgar Folk

Jacques Leblanc writes: “The years are urging somewhat, but I continue to advance at my own pace still dreaming of tomorrows filled with enchantment and serenity. After 55 years I am still active in research and presently I am happily engaged in a sponsored project dealing with ‘Individual Variations in Response to Stress.’ I am still part of the Department of Physiology at Laval University, but without teaching responsibility. This leaves me with spare time to enjoy a hobby that I have pursued for a long time. During that period my activities sometimes alternated between painting and doing research and I found satisfaction doing either one. It was usually much easier to obtain results with painting, but will they be remembered for as long as those obtained in research? I have some doubt. I also enjoy playing bridge, golfing, fishing, and gardening.

“Above all I have the company of my wife Jeannine and of my loving family. As you can see, I am a full-time retired physiologist and as the saying goes, ‘tomorrow is another day.’” ♦

Book Reviews

Essentials of Exercise Physiology Plus Student Study Guide and Workbook

William D. McCardle

Frank I. Katch

Victor L. Katch

Philadelphia

Lippincott Williams and Wilkins,
2000, 697 pp., illus., index, \$53.95

Workbook, 475 pp

ISBN: 0-683-30507-7

The extensive text plus a Student Guide and Workbook is ostensibly devoted to revealing the authors' passion for the science behind exercise physiology. Their focus is devoted to "understanding the inter-relationships among energy intake energy production during exercise, and physiologic systems that support physical activity and training responsiveness." Although not specified, presumably the book and guide are intended for upper level undergraduate or an initial level graduate course in exercise physiology. However, others working in the field or who are investigating basic knowledge for clinical or other purposes could well profit from reviewing pertinent portions.

Division of the text is in sections which are: *I*) Introduction to Exercise Physiology; *II*) Nutrition and Energy Transfer; *III*) The Physiologic Support Systems; *IV*) Exercise Training and Adaptation in Functional Capacity; *V*). Factors Affecting Physiological Function, Energy Transfer, and Exercise Performance; *VI*). Optimizing Body Composition, Aging and Health Related Exercise Benefits. Seven appendices supplement the text, providing informa-

tion about pertinent journals, web sites, the metric system and conversion factors and metabolic computations. New to the second edition are chapters on the origins of exercise physiology and clinical exercise physiology for health related professionals. All told there are 21 chapters in the six sections with the largest number of chapters (eight) in the section on nutrition and energy transfer. Thus, an important emphasis throughout is nutritional science. The topics covered in each chapter are clearly identified in a prominent listing at the beginning. Selected references are provided that cover aspects of chapter content. Color pervades the book, including many of the illustrations. In regard to the illustrations, the source of the contained information is not always apparent and appropriate references are sometimes omitted.

With respect to the text in comparison to the several other books available to those teaching exercise physiology, coverage that includes extensive nutritional information and clinical aspects from health related professionals may turn selection to books with more limited coverage and more emphasis on the impact of exercise on the organism. Somehow, the basic underpinnings of physiology as exemplified by the work of those associated with the American Physiological Society have to some extent been underplayed. For example, on page 24 the statement made that, "Exercise has emerged as a field separate from physiology" can hardly be supported. In addition, a listing of the organizations devoted to exercise physiology does not include APS, nor is APS listed in the appendix as having a useful web site.

An interesting feature is a portion of a

chapter devoted to discussion of scientific method. Such inclusion may be important for enlightening students, most of whom will never engage in research. Nevertheless this perspective, if emphasized by an instructor, should assist perpetuating understanding of the scientific approach—something that is frequently neglected in developing an informed citizenry.

Coverage of systems physiology as influenced by exercise is adequate and well-illustrated, as is the impact of regular exercise and training. Emphasis on body composition goes beyond the identification of components of body composition as useful references for physiological variables, i.e., fat-free body weight, skeletal muscle mass, etc. Body composition as related to health problems is emphasized, e.g., weight control and obesity. Absent from the book are newer emphases that have pervaded recent investigations, such as genetic impacts and microbiological issues. Nor is exercise covered as effecting physiological adjustments in outer space and the protection that occurs.

In summary, the wide coverage may appeal to some and the authors have improved and brought their contribution more up-to-date than their earlier version. Thus, the book will provide useful, informative and stimulating information for the students who study its offerings. Utilization of the supplemental study guide and workbook should also enhance the students' knowledge by focusing on the essential points of emphasis in the various chapters.

*Elsworth R. Buskirk
Penn State University*

Book Reviews

Noninvasive Positive Pressure Ventilation: Principles and Applications

Nicholas S. Hill, (Editor). Amonk, NY: Futura Publishing Company, Inc., 2000, 256 pp., illus., index, \$70.00 ISBN: 0-87993-459-X

Noninvasive mechanical ventilation, especially noninvasive positive pressure ventilation, has had a major impact in the care of patients presenting with acute or chronic respiratory failure over the past two decades. Most recently, noninvasive positive pressure ventilation (NPPV) has been found valuable in decreasing the need for endotracheal intubation and mechanical ventilation in patients who present with COPD exacerbation and development of acute respiratory failure. Moreover, there has been a marked increase in the prescription of domiciliary ventilation in the United States over the past decade, and nearly 50% of that growth can be attributed to NPPV in the home setting. As with the development of new therapies, application of NPPV is broadening before the technique has been thoroughly studied or before the technique is

well described in textbooks providing overviews of respiratory care. Practitioners are then required to search through multiple sources of information (e.g., general publications, scientific meetings, personal experience, personal communication, etc.) which sometimes fail to provide substantial information in a comprehensive and organized manner. This textbook, one of the first totally devoted to NPPV, provides a practical, useful and comprehensive guide to the pitfalls and practices of NPPV therapy.

The editor, Dr. Hill, is a well-known and respected international authority in the development and scientific application of NPPV. He has incorporated as co-authors other well-known experts with a heavy international flavor. This textbook provides a more global picture of NPPV which serves to broaden the application of this technology to different patient groups.

Overall, the textbook is comprehensive, well-written, and easy to read. It offers evidence-based medicine to support the application of NPPV in different patient groups and in different clinical scenarios. In areas where evidence-based medicine does not exist to support its application, the authors offer personal experience or expert opinion

regarding the use of NPPV. It is to their credit that the authors and editor are quick to point out and qualify statements regarding the use of NPPV where information is scanty, or not supported by randomized, controlled trial data.

The textbook's strength is its comprehensive nature, practical suggestions, and easy to read format. Its weaknesses, however, are that it is unnecessarily redundant on some issues, such as the choice of interface or ventilator settings, monitoring of NPPV and inclusion and exclusion criteria, which, in most cases, is extremely similar, if not identical, across different patient groups. The physiological effects of noninvasive positive pressure ventilation on gas exchange, work of breathing, and electrical activation of the respiratory muscles also are not dealt with in any significant detail. A comprehensive review of the pathophysiologic effects of NPPV would have been a welcome addition to the textbook.

Nonetheless, the textbook stands as a practical guide to the practitioners of NPPV, and up-to-date, comprehensive and easy to understand clinical textbook describing the implementation and use of NPPV.

*Gerard J. Criner
Temple Lung Center*

Rome II: The Functional Gastrointestinal Disorders Diagnosis, Pathophysiology and Treatment A Multinational Consensus.

2nd Edition Douglas A. Drossman, Enrico Corazzari, Nicholas J. Talley, W. Grant Thompson, William E. Whitehead (Editors). McLean, VA: Degnon Associates, 2000, 764 pp., illus., index, \$79.95 ISBN: 0-9656837-2-9.

Views as to the pathogenesis, diagnosis and treatment of functional gastrointestinal disorders have undergone many changes during the last century. An approach to these disorders from conceptual and clinical points of view has been hampered by a paucity of understanding how the functions of gastrointestinal tract are organized and controlled by the enteric nervous system. In addition, the pathways through which the central nervous system modulates this control as well as the sensory pathways involved are only beginning to be unraveled. This new and clearer view

requires a new fresh appraisal to functional gastrointestinal disorders. In the past, a patient presenting with symptoms suggesting a gastrointestinal origin was studied with the aim of finding the structural changes or disease process causing the symptoms. When no anatomic or pathologic changes were found the patients' disorder was considered "functional" which to many meant that it was a psychological rather than medical disorder.

This book, *The Functional Gastrointestinal Disorders*, is the product of the Rome II project, a four-year endeavor by a coordinating committee

Book Review

and over 50 international investigators. It is a continuation of the Rome I project, an effort to define and categorize functional gastrointestinal disorders analogous to efforts, which led to diagnostic criteria in psychiatry (DNSIII) and rheumatology (ARA criteria).

The book covers topics ranging from neurogastroenterology to psychosocial aspects of functional gastrointestinal disorders in the first four chapters. The remaining nine chapters deal with functional disorders by anatomic region, that is, esophageal disorders, gastric disorders, bowel disorders, biliary tract and pancreatic disorders, anal-rectal disorders and functional pain. There is a chapter on childhood functional disorders and chapters on the design and interpretation of treatment trials in functional gastrointestinal disorders. In addition, there is a 20-page glossary of the terms used in the book to minimized misinterpretation of the discussions by the reader. Four appendices contain tables listing criteria for the different functional disorders discussed, questions to be included in research questionnaires in the study of functional disorders, such as, questions to define functional dyspepsia, so that research from one institution can be more readily compared with research from a different research group.

The chapter on fundamentals of neurogastroenterology is outstanding. In 41 pages the author covers in an integrated fashion the innervation of the digestive tract, enteric nervous system control, interaction with the central nervous sys-

tem, properties of enteric smooth muscles, immuno-neural communication, sensory neurophysiology of digestive tract and how abnormal central processing of sensory signals may contribute to the clinical manifestations of functional gastrointestinal disease.

The chapter on applied neurogastroenterology focuses on studies of altered motility patterns and sensorimotor dysfunction in functional gastrointestinal disease. These discussions refer to a host of studies done in the past, but are presented without attempting to put them in a current neurophysiologic framework. The authors do recognize the limitations of the studies discussed and conclude that there is a disappointing lack of correlation between sensorimotor dysfunction and symptoms in studies in patients with functional gastrointestinal disorders. This suggests that the rationale behind these studies is faulty or current measures are imprecise or both. This should have been emphasized so the resources available to study these prevalent and costly clinical problems are not wasted on unproductive research hypotheses.

The last half of the book is devoted to discussion of the various functional gastrointestinal disease, each chapter dealing with one anatomic segment of the alimentary tract, ranging from esophageal disorders through to disorders of the anus and rectum.

This book presents recommendations for diagnostic criteria, clinical evaluation, physiologic features and treatment for each category. The chapter on the

design of treatment trial presents an orderly approach to trial design emphasis on defining population to be studied, use of placebo and/or control group data, data collection and analysis, and outcome definition. This book, the culmination of the work of the Rome II project, is a consensus statement emphasizing standard characterization of functional gastrointestinal disorders, clinical management of these disorders and design of clinical trials to improve the rationale and outcome of therapy. It is not presented with a specific audience in mind. For that reason, there is material included in this volume relevant to the interest of the physiologist, clinical investigator and clinician, but there is considerable material that each category of reader will want to skip over. The book is exhaustively referenced with 100 to over 400 references at the end of each chapter. This book should be read by everyone anticipating studying and doing research on functional gastrointestinal disorders. In this day when practice guidelines receive so much attention, the chapters on specific diagnoses have useful information and provide a yardstick by which to measure current practices. Finally, the chapter on the fundamentals of neurogastroenterology gives a clear overview alimentary tract control, information that all with an interest in functional disorders of the gastrointestinal tract should make his own. ♦

Thomas R. Hendrix
Johns Hopkins University

Books Received

Body Composition Analysis of Animals: A Handbook of Non-Destructive Methods.

John R. Speakman (Editor).
New York: Cambridge Univ. Press, 2001,
242 pp., illus., index, \$74.95.
ISBN: 0-521-66338-5.

Development of the Human Spinal Cord.
Joseph Altman and Shirley A. Bayer.
New York: Oxford Univ. Press, 2001,

542 pp., illus., index, \$185.00.
ISBN: 0-19-514427-9.

Fetal Growth and Development.

Richard Harding and Alan D. Bocking
(Editors).
New York: Cambridge Univ. Press, 2001,
284 pp., illus., index, \$28.95.
ISBN: 0-521-64543-3.

The Geometry of Biological Time, 2nd
Edition.

Arthur T. Winfree.
Interdisciplinary Applied Mathematics.
New York: Springer-Verlag, 2001, 777
pp., illus., index, \$89.95.
ISBN: 0-387-98992-7.

Variability-Entropy Theory.

Robert M. Peters, M.D.
Lewiston, ID, 2001, 68 pp., illus.,
\$12.95.
ISBN: 0-9713107-0-X.

Obituary

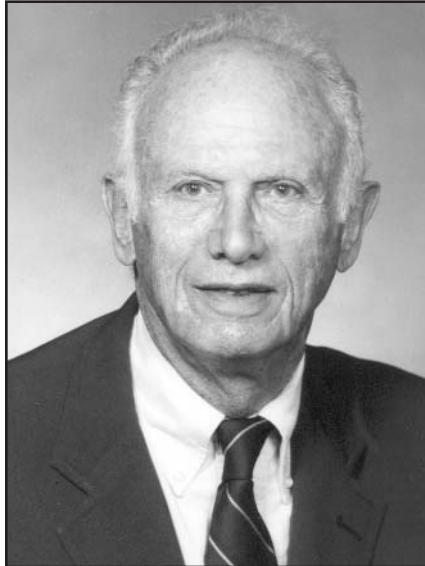
Robert M. Berne

1918 - 2001

Robert M. Berne, former chairman of the Department of Physiology at the University of Virginia Medical Center and the 45th President of the APS, died Thursday, October 4, 2001 at his home in Charlottesville, VA. Bob was a man of many accomplishments: a devoted and steadfast husband, a loving father and grandfather, a leader of the University of Virginia, and a scientist of world class. He touched family, friends, scientific colleagues, and many through whose life he passed, especially those whose growth he nurtured.

Born in Yonkers, NY, he grew up and was schooled in Brooklyn. Though a successful student in his early years, he remained proud of being a “street kid” from the city. This showed in his zest for competition, and his easy way with all those he met. From his high school days he was an avid sportsman, initially with a deep love for horseback riding, and later for tennis and fishing, both of which he pursued with love and intellect as he did so many things. Like other thoughtful, creative people, he spent the last of his adolescence in semi-isolation, confined to bed with tuberculosis. When that time passed, he launched on a process of intellectual and professional development that was to last throughout his life.

He chose to leave New York urban life for the South, and attended college in Chapel Hill, NC where he earned a Phi Beta Kappa key while having his share of fun (*Annual Review of Physiology* 60: 1-18, 1998). He then entered Harvard Medical School with the class of 1943, and immediately showed a life-long inclination toward experimental research and scholarly activity. Hard work and intelligence paid off and in the spring of 1943 he was admitted to a rotating internship at Mount Sinai Hospital in New York City. During this time, he became engaged to, and married Beth Goldberg, who was to be his constant companion and “collab-



Robert M. Berne

orator” for the remainder of his life. In late 1944 he became a medical officer with the US Army, and quickly adapted to army life, and even thrived in this difficult environment (*ibid*). With the end of the war, he returned to Mount Sinai for a residency in Internal Medicine, which led him to his ultimate career in cardiology and the study of the cardiovascular system. Carl Wiggers accepted Bob into his fellowship program in Cleveland, and with that act Carl accomplished two things. He launched Bob on an incredibly successful research career and, to quote from their textbook, he introduced Bob to his other life-long collaborator and friend, Matthew Levy.

The fellowship years set his career on a new course by leading him to a life-long commitment to teaching and research. He first accepted a position on the physiology faculty of Western Reserve University in Cleveland in 1949 where he remained for 17 years. Bob thrived in the University atmosphere. It offered him an opportunity to teach in a new medical curriculum and to conduct his research as his inclinations dictated.

His early research with Matthew Levy led him ultimately to an area of investigation that established and sustained him as a pre-eminent researcher. In 1963 Bob published a paper, somewhat speculative at the time, proposing a possible role for the chemical adenosine in the control of blood flow to the heart. This work set a direction for the next four decades of his research program, and that program was strongly shaped by his colleague and friend, Rafael Rubio, who came from Mexico to be a continuing part of the Berne laboratory.

In addition to his research, the family was growing with the addition of two daughters, Amy and Julie, and later two sons, Gordon and Michael, and ultimately with the addition of eight grandchildren: Maggie, Molly, and Cris Speasmaker, Sarah and Alex Kaminshine, Ari and Kyle Berne, and Kayla Berne. Throughout his life the family remained a focal point in his life with summers spent in Woods Hole and Christmases and Thanksgiving in Charlottesville.

With the growing recognition of his outstanding research and teaching, Bob was invited to become the chairman of Physiology at the University of Virginia. His charge was to be part of a major initiative in developing basic medical research at UVA. With quiet strength and gentle leadership, he built one of the premier physiology departments in the world, serving as Charles M. Slaughter Professor of Physiology for the next 22 years, and as an emeritus professor of physiology until his death. He often remarked that his job as chair was initially made easy by his association with a most competent and dedicated group of people including the Dean (Ken Crispell); and the new chairs of Anatomy (Jan Langman), Microbiology (Robert Wagner), and especially his dear friend and chairman of Biochemistry (Thomas Thompson).

Obituary

Adenosine became recognized as a molecule with wide ranging biological importance, and this provided a focus for research by hundreds of investigators throughout the world. In the 1980s and the 1990s his work on adenosine took on new life with the recognition that, in addition to its role in regulation of cardiac blood flow, the molecule plays a key role in the control of a multitude of biological processes. A fellow in the laboratory, Luiz Bellardinelli, worked with Bob's group to discover that adenosine plays a key role in regulating heart rhythms. This discovery led directly to a patent for a clinical application for adenosine as "Adenocard," and widespread use of the drug throughout the world. Under Bob's leadership, the major portions of the royalties from this patent were returned to the University of Virginia, and used to establish and endow the Cardiovascular Research Center, and the Robert M. Berne chair in Cardiovascular Research.

His research and teaching yielded more than 200 scientific articles and three textbooks authored with Matthew Levy. In the process of building his department and research programs, he trained dozens of graduate students and post-doctoral fellows, who later populated the academic community with senior professors and chairs of departments. In addition, his unflagging support of the other faculty in the department helped many of them to rise to prominence as well. Truly leadership, above all, was a skill of Dr. Berne's that many might emulate.

The huge impact of Dr. Berne's work was recognized in many ways. He was the President of the American Physiological Society in 1972, elected to the Institute of Medicine of the National Academy of Science in 1979, received the Gold Heart Award of the American Heart Association in 1985, and was elected to the National Academy of Science in 1988. In 1994 he assumed professor emeritus status

and focused his professional energies on his books, and also re-energized his long-standing interests in fishing, tennis, guitar playing, and travel. He occupied office space in the Cardiovascular Research Center that he played so critical a role in founding, and continued to mentor everyone from secretaries to senior faculty in his usual way.

Ultimately, his illness was met with the same grace and dignity that characterized all his other activities and he accepted the uncertain future, as he had accepted his opportunities. He has been a friend and role model, and a driving force, and all of us will sorely miss him.

Memorial donations may be made to the Robert M. Berne Educational Fund, CVRC University of Virginia, 409 Lane Rd, MR-4 Building, Room 6051, Charlottesville, 22908

Contact Brian R. Duling, (804-924-9040 or Email brd@virginia.edu), for additional information. ❖

APS Member Obituaries on Web

The Society wishes to acknowledge deceased Society members with expanded obituaries on our Web site. Obituaries for publication on the Society's Web page should be submitted via Email to the APS Webmaster

(webmaster@aps.faseb.org) or by mail to Dr. Martin Frank, Executive Director, The American Physiological Society, 9650 Rockville Pike, Bethesda, Maryland 20814. Please include the individual's full name, date

of birth and death, education and professional affiliations, and any other details in remembrance of the individual you wish to acknowledge, along with a photo, if available.

People & Places

Skorton President of AAHRPP Board of Directors

APS Member **David J. Skorton** was recently elected president of the board of directors for the Association for the Accreditation of Human Research Protection Programs (AAHRPP).

AAHRPP is developing a voluntary, peer-driven, educationally focused accreditation program for human research protection, using a site visit model that employs a rigorous set of performance standards and outcome measures. One of the board's first tasks will be to review the public comments

on AAHRPP's Interim Accreditation Standards and Procedures. A public review and comment period runs until December 3, 2001. These comments, along with input from pilot site visits, will be used in finalizing the standards. AAHRPP's first pilot site visit will be conducted at the NIH in December, and the organization plans to accept applications for full accreditation in early 2002.

Marjorie Speers, AAHRPP's executive director, said, "I couldn't be more

pleased with the people that chose to serve on this board, and who will carry the work of AAHRPP forward. There is important representation from all relevant perspectives: from research participants, from institutional review boards, and from a wide range of research interests."

AAHRPP is a national, nonprofit accrediting organization incorporated in April 2001. For more information, visit <http://www.aahrpp.org>. ❖

People & Places

APS Member Elected to Institute of Medicine

On October 15th, the Institute of Medicine (IOM) announced that APS Member, **Warren M. Zapol**, MD, professor of Anesthesia, Harvard Medical School, and anesthesiologist-in-chief, Massachusetts General Hospital,

Boston, had been elected to IOM membership. Zapol was one of 60 new members, five members granted senior membership and five scientists chosen as foreign associate members. The mission of the IOM, an arm of the National

Academies, is to enhance health care by providing objective scientific information about health policy to the public, government, and corporations. ❖

Sean Harrison Adams has joined the Department of Metabolic & Cardiovascular Disease Pharmacology, Novartis Pharmaceuticals Corporation, Summit, NJ. Prior to his new assignment, Adams was affiliated with the Department of Endocrinology, Genentech Inc., South San Francisco, CA.

Thomas E. Adrian has moved from the Department of Physiology, Creighton University Medical School, Omaha, NE to join the Department of Surgery, Northwestern University, Chicago, IL.

Steffan Gregory Anderson has moved to the Department of Medicine, Kansas University Medical Center, Kansas City, KS from the Department of Biology, Oral Roberts University, Tulsa, OK.

Govindasamy Balasekaran has joined Physical Education & Sports Science, National Institute of Education, Singapore. Previously, Balasekaran was with the School of Physical Education, Nanyang Technology University, National Institute of Education, Singapore.

Stefan H. Boese has moved from the Department of Physiological Sciences, University of Newcastle Medical School, Newcastle Upon Tyne, England to join the Department of Zoophysiology, University of Potsdam, Potsdam, Germany.

Heddwyn Lisa Brooks has moved from the Laboratory of Kidney and Electrolyte Metabolism, NIH, Bethesda, MD to accept a position with

the Department of Physiology, University of Arizona College of Medicine, Health Science Center, Tucson, AZ.

Donald O. Castell has moved from the Department of Medicine, Graduate Hospital, Philadelphia, PA to a new position with the Department of Gastroenterology & Hepatology, Digestive Disease Center, Medical University of South Carolina, Charleston, SC.

Peter J.S. Chiu has joined Discovery & Preclinical Department of MDS Pharma Services, Bothell, WA. Chiu was formerly with the Department of General Pharmacology, Pfizer Global Research and Development, Groton, CT.

Cynthia I. Colon-Rivera has joined the Department of Physiology and Biophysics, University of Illinois, Chicago, IL. Previously, Colon-Rivera was affiliated with the Department of Molecular and Integrative Physiology, University of Illinois, Urbana-Champaign, Urbana, IL.

David James Dean has accepted a post with the Department of Biology, Institute for Diabetes Discovery, Branford, CT. Prior to his new position, Dean was with the Medical Diabetes and Metabolism Research Center, Boston University, Boston, MA

Anthony J. Donato has affiliated with the Department of Health and Kinesiology, Texas A&M University, College Station, TX. Prior to his new appointment, Donato was with the

Department of Kinesiology and Applied Physiology, University of Colorado, Boulder, CO.

Hilmar Dorge has moved from the Department of Thoracic and Cardiovascular Surgery, University of Aachen Medical School, Aachen, Germany to a position with the Department of Thoracic and Cardiovascular Surgery, Georg-August-University Gottingen, Gottingen, Germany.

Mazyar Fallah was associated with the Department of Psychology, Princeton University, Princeton, NJ. Currently, Fallah is with Systems Neuroscience Lab, The Salk Institute, La Jolla, CA.

Herbert Geller has moved from the Department of Pharmacology, UMDNJ-RW Johnson Medical School, Piscataway, NJ to join the Division of Intramural Research, National Heart, Lung, and Blood Institute, NIH, Bethesda, MD, .

David Robert Grimm has moved from the Department of Medicine, Spinal Cord Research, Mount Sinai School of Medicine, VA Medical Center, Bronx, NY to the Department of Physio-pathology, New York Chiropractic College, Seneca Falls, NY, .

Erdal C. Gursoy has recently affiliated with the Cardiovascular Institute, University of Pittsburgh, Pittsburgh, PA. Gursoy was formerly with the Department of Cardiology and Internal Medicine, Virginia Commonwealth University, Richmond, VA.

People & Places

Michael John Hickey has moved from the Department of Vascular Biology, Baker Medical Research Institute, Melbourne, Victoria, Australia to the Department of Medicine, Monash University, Clayton, Australia.

Jianhua Huang has accepted a position as Research Associate, with the Beth Israel Deaconess Medical Center, Boston, MA. Prior to his new position, Huang was with the Department of Anatomy and Physiology, Kansas State University, Manhattan, KS.

Susan R. Kayar has accepted the position of Health Scientist Administrator, Department of Research Infrastructure, NIH National Center for Research Resources, Bethesda, MD. Prior to her new position, Kayar was with the Department of Environmental Physiology, National Naval Medical Center, Silver Spring, MD.

Timothy David Le Cras has joined the Division of Pulmonary Biology, Children's Hospital Medical Center, Cincinnati, OH. Prior to his new position, Le Cras was with the Department of Pediatrics, University of Colorado, Denver, CO.

Paul Scown MacLean has moved from the Department of Biochemistry, East Carolina University, Brody School of Medicine, Greenville, NC to join the Department of Medicine, Division of Endocrinology, Diabetes, and Metabolism, University of Colorado Health Sciences Center, Denver, CO.

Vicente Martinez has recently joined Novartis Pharma, Basel, Switzerland. Previously, Martinez was affiliated with the Veterinary School, Unit Fisiologia, San Pablo, Moncada, Valencia, Spain.

Karl Stanley Matlin has joined the Department of Surgery, University of Cincinnati College of Medicine,

Cincinnati, OH. Prior to his new commitment, Matlin was affiliated with the Department of Surgery, Beth Israel Deaconess Medical Center, Boston, MA.

Jeffrey B. Matthews has moved from the Department of Surgery, Harvard Medical School, Boston, MA to affiliate with the Department of Surgery, University of Cincinnati Medical Center, Cincinnati, OH.

James E. McNamee has joined the University of Maryland, Baltimore School of Medicine, Baltimore, MD as Associate Dean, Information Services. Previously, McNamee was with the Department of Pharmacology and Physiology, University of South Carolina School of Medicine, Columbia, SC.

Jeffrey M. Palmer has joined the Enterology Team and Drug Discovery, R.W. Johnson Pharmaceutical Research Institute, Spring House, PA. Palmer was previously associated with the Department of Biomedical Sciences, Creighton University, Omaha, NE.

Kendall Sue Powell has affiliated with the Science Communication Department, University of California, Santa Cruz, CA, having moved from the Department of Biomedical Sciences, University of California, San Diego, La Jolla, CA.

Jon J. Ramsey has joined the Department of Molecular Biosciences, University of California, Davis, CA. Prior to his new assignment, Ramsey was with the Primate Research Center, University of Wisconsin, Madison, WI.

Barry William Scheuermann has recently affiliated with the Department of Health, Exercise, and Sport Sciences, Texas Tech University, Lubbock, TX. He had been with the Department of

Kinesiology, Kansas State University, Manhattan, KS.

David I. Soybel is currently with the Department of Surgery, Division of General GI Surgery, Brigham and Women's Hospital, Boston, MA. Soybel was previously with the Department of Surgery, VA Boston Healthcare System, West Roxbury, MA.

John David Symons has moved from the Division of Cardiovascular Medicine, University of California, Davis, CA to associate with the College of Health, University of Utah, Salt Lake City, UT, .

Robert J. Talmadge has moved from the Department of Human Nutrition, Foods, and Exercise, Virginia Tech, Blacksburg, VA to join the Biological Sciences Department, California Polytech, Pomona, CA.

Hirofumi Tanaka has recently joined the Department of Kinesiology and Health Education, University of Texas, Austin TX. Previously, Tanaka was with the Department of Kinesiology and Applied Physiology, University of Colorado, Boulder, CO.

Reha Mehmet Toydemir has joined the Department of Molecular Biology, University of Utah, Salt Lake City, UT. Prior to his new position, Toydemir was with the Department of Micro Immunology, Finch University Health Science, Chicago Medical School, North Chicago, IL.

Dorothy E. Vatner has moved from the Department of Medicine, Cardiovascular Research Institute, Hackensack, NJ and affiliated with the Department of Medicine, University of Medicine Dentistry of New Jersey, Newark, NJ.

Books Received

Gift Planning Opportunities

The American Physiological Society is pleased to invite the membership to consider including the APS in their gift giving plans. Over the last several years, the Society has received donations of land and securities, all of which have been used to launch the Society's various young investigator award programs.

Many options exist if you are interested in including the APS and its Endowment Fund in your financial or estate planning. Some options include:

- ☛ **Immediate Gifts:** Cash, gifts of appreciated securities, gifts of closely

held stock, gifts of tangible personal property, retirement assets, charitable lead trusts and gifts of real estate.

- ☛ **Life Income Gifts:** Gift annuities, deferred payment gift annuities, charitable remainder trusts, charitable remainder unitrusts, and charitable annuity trusts.

- ☛ **Gifts of Insurance:** Ownership of life insurance policies can be donated, or the APS can become the beneficiary of policies owned by others.

- ☛ **Designated Gifts:** Gifts given to honor or memorialize an individual or an organization and can include schol-

arships, programs, etc., which are specified for support and named for individuals.

- ☛ **Gifts by Will:** Bequests of a percentage of estate, stated dollar amount or specific property or assets.

For more information on gift giving to the APS, please contact Martin Frank, Executive Director (Tel.: 301-530-7118, Email: mfrank@the-aps.org), or Robert Price, Director of Finance (Tel.: 301-530-7160, Email: rprice@the-aps.org).

APS Sustaining Associate Members

The Society gratefully acknowledges the contributions received from Sustaining Members in support of the Society's goals and objectives.

Abbott Laboratories

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Third Annual Bristol-Myers Squibb Award for Distinguished Achievement in Metabolic Research



Bristol-Myers Squibb Company presents an annual award to a scientist making an outstanding contribution to metabolic disease research, such as diabetes, obesity, hyperlipidemia, osteoporosis, or age-related diseases. Candidates for the award are nominated by individuals affiliated with medical schools, hospitals and metabolic disease research centers.

AWARD: US \$50,000

Deadline for Receipt of Nominations: **February 28, 2002**

Announcement of Award Recipient: October 16, 2002

Rules and official nomination forms are available from:

<http://www.bms.com/foundation/awards.html> or by writing to: Secretary, Award Committee, Bristol-Myers Squibb Award for Distinguished Achievement in Metabolic Research, Route 206 and Province Line Road, Mailbox D14-

03, Princeton, NJ 08540, USA. Tel: 609-252-5341; Email: achievement.awards@bms.com

Selection Committee:*

Stephen O'Rahilly, MD, Selection Committee

Chairman; University of Cambridge, Cambridge, UK

Gerard Ailhaud, PhD, Universite de Nice, Nice, France

Claude Bouchard, PhD, Louisiana State University, Pennington Biomedical Research Center, Baton Rouge, Louisiana

Robert Lindsay, MD, PhD, Columbia University Helen

Hayes Hospital, West Haverstraw, New York

Michael Thorner, MD, DSC. University of Virginia Health System, Charlottesville, Virginia

*Two additional Selection Committee members will be added in 2002. Please note that current Selection Committee members may not be considered for this award.

Scientific Meetings & Congresses

February 2-6

The Genome and Beyond—Genomics and Structural Biology for Medicine, Miami Beach, FL. *Information:* MNBWS Office, P.O. Box 016129 (M823), Miami, FL 33101-6129. Tel.: 305-243-3597; Fax: 305-324-5665; Email: mnbws-biochem@miami.edu; Internet: <http://www.med.miami.edu/mnbws>

February 23-27

46th Annual Meeting of the Biophysical Society, San Francisco, CA. *Information:* Biophysical Society, 9650 Rockville Pike, Bethesda, MD 20814. Tel.: 301-530-7114; Fax: 301-530-7133; Email: society@biophysics.org; Internet: <http://www.biophysics.org>.

February 23-28

SPIE International Symposium on Medical Imaging, San Diego, CA. *Information:* Society of Photo-Optical Instrumentation Engineers (SPIE), PO Box 10, Bellingham, WA 98227-0010. Tel.: 360-676-3290; Fax: 360-647-1445; Email: spie@spie.org; Internet: <http://www.spie.org/info/mi>.

February 23-March 1

Genome 2002 Triconference. Includes 5th Annual Genomic Partnering: Emerging and Early-Stage Companies (February 23-24), 9th Annual Human Genome Discovery: Commercial Implications (February 25-27), and 6th Annual Gene Functional Analysis (February 28-March 1), Santa Clara, CA. *Information:* Cambridge Healthtech Institute, 1032 Chestnut Street, Newton Upper Falls, MA 02464. Tel.: 617-630-1300 or 888-999-6288; Fax: 617-630-1325; Internet: <http://www.healthtech.com>.

March 24-26

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

April 21-25

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

May 5-10

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

May 18-24

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

May 14-18

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

May 27-June 7

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

May 29-June 1

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

June 2-7

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

June 3-6

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

June 5-9

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



MEMBERSHIP APPLICATION FORM

THE AMERICAN PHYSIOLOGICAL SOCIETY

Tphys10.01

Check membership category you are applying for: Regular Affiliate Student

Do you currently hold membership in the APS? Yes No

If you answered yes to above, what is your category of Membership? _____ Year elected? _____

Name of Applicant: _____ / _____ / _____
Last Name or Family Name First Name Middle Name

Date of Birth _____ / _____ / _____ Optional: Male Female
Month Day Year

Institution Name _____ Department _____

Institution Street Address _____

City/State/Zip/Country _____

Phone _____ Fax _____

E-mail _____

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

Dates*	Degree*	Institution	Major Field	Advisor
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DOCTORAL DISSERTATION TITLE (if applicable): _____

POSTDOCTORAL RESEARCH TOPIC (if applicable): _____

SPONSORS (Sponsors must be APS Members. If you are unable to find sponsors, mail or fax this form to the address on the back of this form and we will locate them for you.)

Check this box if applicable: Please locate sponsors on my behalf.

#1 Sponsor Name _____

Mailing Address _____

Phone _____

Fax _____

E-mail _____

Sponsor Signature* _____

#2 Sponsor Name _____

Mailing Address _____

Phone _____

Fax _____

E-mail _____

Sponsor Signature* _____

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

► Please turn over for 2 more questions...and mailing instructions.

Membership Application (Continued...) **Applicant Last Name** (please print) _____

OCCUPATIONAL HISTORY [Check if student]

Current Position:

Dates	Title	Institution	Department	Supervisor
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Prior Positions:

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

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

IMPORTANT INFORMATION:

Do not include a curriculum vitae or reprints.

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

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

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

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