

# THE PHYSIOLOGIST



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## Women in Physiology Mentoring Program

A recent issue of *The Physiologist* highlighted the considerable accomplishments of women members of the American Physiological Society (*Physiologist* 35: 247–249, 1992). The range of professional achievements attained by many of our women members is consistent with other studies indicating that female scientists who have risen to faculty-level ranks or have become established investigators in industry are highly competitive compared with their male counterparts. This success includes the receipt of independent research grants, service on editorial boards and study sections, and success in high-ranking administrative positions. Yet, the numbers of women in tenure-track physiology positions and in the APS membership remain discouragingly low. This contrasts markedly with the proportion of graduate students embarking on physiological careers who are female.

The most recent annual questionnaire results from the Association of Chairmen of Departments of Physiology (ACDP) indicate that women comprise about 42% of current physiology graduate students and about 34% of postdoctoral fellows in physiology. Yet, female scientists make up only 15% of physiology faculty members whose primary appointments are in physiology, and only 12% of the membership of the APS. These numbers suggest that our discipline is attractive to female students but that considerable attrition occurs as women scientists move through the ranks to full faculty

status. It is likely that there are a variety of factors responsible for the loss of women physiologists along the career track, but the data required to understand this level of attrition are hard to come by.

A recent study by Dean Smith, an APS member who examined job trends in the field of neuroscience, provides some insight into one factor that should be considered. Through data obtained from four major research universities that were hiring neuroscientists at the assistant professor level, Smith found that far fewer women applied for 40 positions available from 1985 through 1990 than did men (D. O. Smith, *Synapse*, in press). Although comparable data are not yet available for physiology positions, it is very likely that a similar trend exists in our discipline. As Smith suggests, one factor that may contribute to the low numbers of women applying for faculty positions is a lack of advice and encouragement as they consider careers in academia. If this is indeed the case, one mechanism that should help increase the number of women scientists who remain in the academic pipeline is mentoring at critical stages in their careers.

Mentors serve as sources of advice, information, encouragement, and support to junior colleagues. Mentors can be the first link to building a network with other scientists, both male and female; they can provide constructive criticism and be an advocate for the junior colleague in professional activities. Mentoring provides benefits not only to the mentee but also to the mentor, the institution, and the discipline as a whole. Mentors can benefit from these relationships by expanding their own network of scientific colleagues, by establishing new interactions with other institutions, and through the satisfaction of aiding in the career development of another scientist. Institutions and professional societies benefit from mentoring activities through the increase in productivity and commitment of their students and junior faculty and by reducing the attrition of potential scientists. Although both men and women can function as valuable mentors for junior women scientists, there is a particular need for female role models and mentors to provide advice and support on issues

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## MENTORING PROGRAM

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that are unique to women scientists.

Mentoring of junior female physiologists does occur among our membership, more so if younger women aspiring to careers in physiology have direct contact with a female doctoral or postdoctoral supervisor. However, because women comprise only 12% of the APS membership (including ranks of assistant professor and lower), many younger women have little or no opportunity to form strong professional bonds with successful female physiologists. To help increase the mentoring and networking interactions among women physiologists, the APS Women in Physiology Committee is instituting a mentoring program for female students, postdoctoral fellows, and junior faculty. Female scientists interested in resuming their careers after a period of time outside of the academic arena are also encouraged to participate in this program.

The Mentoring Program will be structured as follows. Physiologists who are interested in serving as mentors will be asked to submit a mentor application form and a current curriculum vitae. Potential mentors can indicate on the form their fields of scientific and professional expertise as well as other aspects of mentoring that they feel competent to provide advice on (e.g., balancing dual career families, gender discrimination, etc.). Because women comprise such a small percentage of the APS membership, we hope that many of our established women members will serve as mentors in this program. However, we encourage men to participate as well. This program will encourage professional interactions between men and women scientists, both junior and senior. We also invite our colleagues in industry to participate in the mentoring program. Information and advice on professional careers in industry is helpful to younger colleagues who might be considering careers as industrial scientists. Junior faculty and research associates

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Deadline for submission of material for publication: Dec. 15, February issue; Feb. 15, April issue; April 15, June issue; June 15, August issue; Aug. 15, October issue; Oct. 15, December issue. **If you change your address or telephone number, please notify the central office as soon as possible.**

Headquarters phone: 301-530-7118. Fax: 301-571-8305.

## A Matter of Opinion

## Just Say No!

The mantra of the anti-drug movement has become the mantra of the American Physiological Society. The APS joined with other organizations and individuals that have been challenged by the animal rights movement and decided to "just say no."

Since the infiltration of the Silver Spring, Maryland laboratory of Ed Taub by Alex Pacheco, the animal rights movement has mounted an unrelenting and, for some, intimidating campaign to challenge the use of animals in biomedical research and to win converts to the movement. As a result, there have been increasing layers of regulation imposed on the investigator community that have increased the cost of research.

For many, the actions of the animal rights movement contributed to the investigator community's bunker mentality: If you keep your head down and maintain a low profile, then the animal rights movement will go away and leave you alone. Unfortunately, going about one's own business did not make the situation any better. The research community had to start standing up for itself and take action to dispel the myths and falsehoods disseminated by the animal rights movement. The community had to learn how to "just say no."

Through the efforts of the APS, National Association for Biomedical Research, incurably ill For Animal Research (iiFAR), and numerous other organizations, materials have been developed to teach the scientific community how to uphold the importance of our research and to "just say no" to animal rights extremists. In addition, materials have been developed explaining the role animals play in the expansion of basic biomedical knowledge and progress in the prevention, diagnosis, and treatment of human and animal disease. These materials have been designed for distribution to the lay public to counteract the efforts of animal rights groups.

Until February 10, 1992, the Society's role had been to provide the membership with information and materials to counter the activities of the animal rights movement and to work to ensure the passage of appropriate legislation and regulations by Congress. On February 10, the Editor of *The Physiologist* received the first of several letters from Alex Pacheco, Chairman of the People for Ethical Treatment of Animals, threatening the Society with a malicious libel suit.

The stimulus for these letters was the publication of a speech by Charles S. Nicoll, University of California, Berkeley, that was presented at the APS Conference in San Antonio on October 2, 1991. Entitled "A Physiologist's Views on the Animal Rights/Liberation Movement," the speech and subsequent article attempted to portray the activities of the movement since the Silver Spring Monkey Incident, suggesting the hypocrisy of their arguments and their threats to human survival.

Pacheco's letter advised the Society and Nicoll that statements made in Nicoll's article were "false and defamatory" and that they represented "an inexcusable elaboration of false, malicious, and defamatory statements made by Ms. Katie McCabe in 'Beyond Cruelty,' published in February 1990 in *The Washingtonian* magazine." Pacheco asked the Society to "apologize and retract Mr. Nicoll's statements in writing in *The Physiologist*."

While the Society was assessing its options, we received a second letter, this time from Philip J. Hirschkop, counsel for PETA, threatening the APS and Nicoll with a malicious libel suit for the publication of six allegedly libelous statements. These threats were a more direct effort to intimidate APS and provoked considerable discussion in Council as to whether the Society should publish a retraction or stand up to PETA. The decision was made more difficult because of the Society's potential financial exposure in a libel suit.

However, there were other issues that influenced the Council as it prepared to decide on a course of action. The Council also had to address itself to several overriding questions. Should APS, an organization representing investigators seeking cures and treatments for diseases through research on animals, acquiesce to the threats of the animal rights movement? Would the publication of a retraction be touted as a victory by PETA and the animal rights movement?

For the Council, the answers to the questions were clear; the publication of an apology and retraction would compromise the Society's mission. It was imperative that the Council uphold the Society's principles. However, principles are worthless if they are legally baseless. Therefore, the issue became a legal one. Was *The Physiologist* within its rights when Nicoll's article was published and were the statements in the article libelous? Based on a review of materials by the APS legal counsel, the Council was assured that there was "no reason, based in the law, for the Society to print any apology, retraction, clarification, or correction with respect to the matters addressed in the correspondence."

For the APS Council, it became legally and morally clear. The Society would not be publishing a correction and clarification as requested by Pacheco and PETA's minions. The only acceptable response was to "just say no!"

And so, APS stood up to the threat, refused to be intimidated, and suggested that the opinions of all should be tested in the marketplace of ideas and not in a court of law. The result? The threats quieted, no suit was ever filed, and the time for filing the threatened libel suit has expired.

Martin Frank  
Stanley G. Schultz

## MENTORING PROGRAM

### MENTORING PROGRAM

(continued from p. 2)

who feel they can offer advice and support are also encouraged to apply to the program as mentors.

Female students, postdoc, and junior faculty seeking mentors will be asked to submit a curriculum vitae and a mentee application form. A list of potential mentors will be returned to the mentee, from which the mentee will choose three to five potential mentors. The mentoring program coordinators will contact the mentors and ask if they would consider serving. When a match has been made, the coordinator will forward the application and curriculum vitae of the junior scientist to the mentor, and contact between the two can be initiated. Both participants will be asked to make a minimum one-year commitment to the program. The Women in Physiology Committee will be tracking the success of the program through annual evaluation forms.

Interactions between mentors and mentees can occur at scientific meetings or through letters, phone calls, and e-mail. Mentors can be extremely helpful to younger colleagues by introducing them to other scientists at APS and other meetings. One avenue of personal interaction we encourage is at the mentoring reception, held at the annual spring APS meeting.

The program's inaugural event will be held at Experimental Biology '93 on Sunday, March 28, from 4:00 to 6:00 pm in the New Orleans Hilton. The Mentoring

Workshop and Social at Experimental Biology '93 will consist of three speakers followed by a social with refreshments and cash bar. Betty Vetter, executive director of the Commission on Professionals in Science and Technology, will speak on the status of women in science. Catherine Didion, executive director of the Association for Women in Science, will address the importance of mentoring. Finally, Hannah Carey, Chair of the APS Women in Physiology Committee, will describe the APS Mentoring Program. Also available at the workshop will be application forms for potential mentors and mentees. Those present at the workshop are encouraged to take these forms back to their home institutions and distribute them to their colleagues and trainees. Persons unable to attend the workshop and social can obtain forms from the APS office after April 1, 1993.

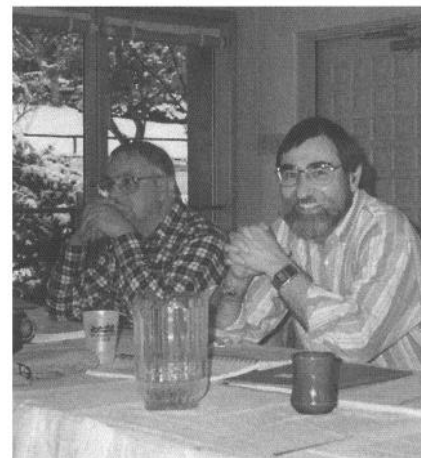
The success of this program depends both on the willingness of APS members to share their wisdom, advice, and networking opportunities with younger colleagues as well as on the dissemination of information about the program to junior scientists who may not yet be APS members but are interested in physiology as a career. The Women in Physiology Committee welcomes your support of this program as an important step in fostering the professional development of women in the physiological sciences. Please contact Hannah Carey or other members of the Women in Physiology Committee for further information, comments, or suggestions about the program.

Hannah V. Carey

## APS Council Retreat Santa Fe, New Mexico



Standing (l-r): L. G. Navar, L. R. Johnson, H. Valtin, F. G. Knox, A. W. Cowley, Jr., F. L. Powell, Jr., L. S. Jefferson, and M. Frank. Seated (l-r): H. J. Cooke, N. C. Staub, W. H. Dantzer, M. P. Blaustein, D. J. Ramsay, and J. A. Schaffer.



N. C. Staub and W. H. Dantzer.

## Council Snowed in in Santa Fe

The APS Council met in December at Bishop's Lodge in Santa Fe, New Mexico, for their annual retreat to review APS activities. This year, the focus was on the journal program and the Society's role in international physiology. Contributing to the in-depth review of these issues was the 14 inches of snow blanketing Santa Fe, which kept the Council buried in discussion for much of the meeting.

The discussion of the journal program focused on the goals and objectives for the publication program detailed in the Strategic Plan (*The Physiologist* 35: 37, 40-42, 1992). Specifically, the discussion focused on how to ensure self-sufficiency for all APS journals and how to measure their quality. Efforts are underway to assess the quality of the individual *AJP* journals with the assistance of the Institute of Scientific Information. The Council also considered the issues of honoraria for editors, manuscript submission fees, and tiered page charges. All items were examined in the framework of containing costs and maintaining the financial health of each journal.

In addition, the status of *News in Physiological Sciences* (*NIPS*) was reviewed and its future directions were discussed. Should the journal become more of a trends-type journal like *Trends in Neuroscience* or should it continue to publish mini-reviews? The question was also raised on

whether *NIPS* should be converted from a membership benefit to an individual subscription basis like the other APS journals.

Council also evaluated the status of the Society's Information Server on the Gopher network, discussing the role it might play for the publication of abstracts of accepted manuscripts and for the table of contents of forthcoming issues of the journals. In addition, discussions were continued on the Society's efforts to publish the APS journals on CD-ROM.

Council's deliberation of the Society's role in international physiology was stimulated by the International Physiology Committee's recommendation that the topic be included in the Strategic Plan. Council drafted the following goal for international physiology: to facilitate interchange between the APS, physiological societies, and their individual members. Council approved the Committee's proposal for the formation of international interest groups to promote scientific interactions in particular geographic areas. The remaining objectives will be finalized at the spring meeting.

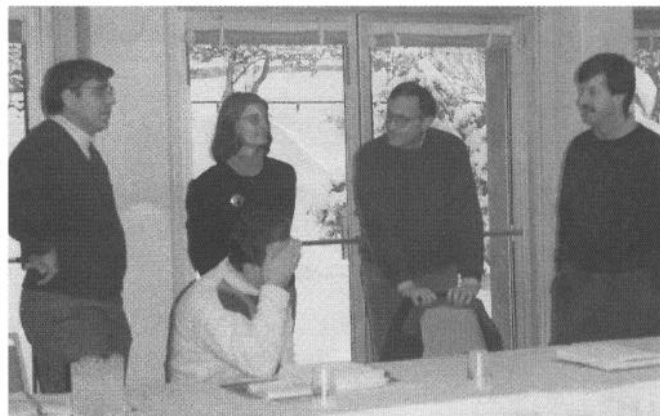
Additional details of the Council's actions during the December retreat will be communicated to the membership at the next Business Meeting and in *The Physiologist*.



L. S. Jefferson, A. W. Cowley, Jr., and W. H. Dantzler.



President-Elect W. H. Dantzler.



Standing (l-r): J. A. Schafer, H. J. Cooke, A. W. Cowley, Jr., and M. Frank. Seated: L. G. Navar.



# Education

## Introducing . . .

### Marsha L. Matyas

The APS is pleased to announce that Marsha Lakes Matyas has been hired as the Society's first full-time Education Officer since Orr E. Reynolds held the position. Marsha has been Project Director, Women in Science Program, American Association for the Advancement of Science since 1985. In that position, she has been responsible for the development of linkages between community-based and science-based organizations to promote the improvement of science education for women, minorities, and persons with physical disabilities. In addition, Matyas has been responsible for the development and administration of projects to develop and evaluate hands-on science and mathematics curricula for schools (grades K-8) and community-based organizations (grades K-10).

Presently, Matyas is on a six-month rotational assignment at the National Science Foundation where she is serving as Senior Program Director, Division of Human Resource Development.

Marsha received her BS degree in biology and a MS degree in cell biology



from Purdue University. After receiving her MS degree, she continued at Purdue, receiving a PhD in biology education. She has published extensively on science education and has been an invited speaker at numerous workshops and meetings.

Marsha believes that professional associations can play a critical role in improving the educational pipeline in a number of ways:

- by providing professionals in academic, industrial, and government

settings with ideas and materials they can use to work with pre-college educators;

- by working cooperatively with education groups such as the National Association of Biology Teachers and the National Science Teachers Association to provide teachers and their students with a clearer picture of what scientists do and to assist educators in developing the content knowledge and teaching skills that will allow them to provide effective science education;

- by developing program models that can be used by members to encourage students interested in science (such as summer programs for middle and high school students, "bridge" programs for graduating seniors, and research experience programs for undergraduate students); and

- by working with state and federal policy makers, as appropriate, to help them make informed decisions concerning priority areas for educational efforts to assure the future supply of trained scientists.

Marsha was hired in response to the Society's Strategic Plan, which calls for an increased commitment to pre-college science education. In her capacity as Education Officer, Matyas will be working with the Education, Careers in Physiology, Women in Physiology, and Porter Physiology Development committees.

Marsha will be joining the APS staff at the end of March. She will be attending the Experimental Biology '93 meeting in New Orleans where she will be meeting with the above committees and will be participating in education-related workshops. Marsha Matyas can be contacted in the APS Offices by telephone at (301) 530-7132 or by e-mail: [marsha@APS.MHS.CompuServe.com](mailto:marsha@APS.MHS.CompuServe.com) at the end of March.

Welcome aboard Marsha!

### APS Membership

Membership applications may be obtained from APS Membership Services, 9650 Rockville Pike, Bethesda, MD 20814-3991. Applications are reviewed and approved by Council on a regular basis throughout the year.

Introducing . . .

## Penelope A. Hansen

Penny Hansen has assumed the editorship of the *American Journal of Physiology: Advances in Physiology Education*. She is an associate professor of physiology at Memorial University in St. John's, Newfoundland, Canada, where she serves as Assistant Dean for Undergraduate Medical Education.

She received degrees in chemistry and biochemistry from the University of Akron and a PhD in physiology from Memorial. Her academic focus is on development and testing of innovations in biomedical science education. She has worked with her colleagues around the world to create curricula designed to engage medical students' interest in physiology, to develop new strategies for human laboratories, and to assist and assess students' ability to analyze and solve physiological problems.



Hansen has been active in faculty development, paying particular attention to ways of developing the scholarly aspects of teaching and of transforming research skills into pedagogical expertise. She was recognized for this work and for her ability as a teacher with a 3M Fellowship for Teaching

Excellence, one of ten awarded in 1990 to Canadian university teachers.

The new editor's goals for *AJP: Advances in Physiology Education* include improving the rate of submission for the journal, broadening its scope to include articles of interest to physiology teachers at all levels, and increasing the diversity of topics to cover the full range from practical "how-to" descriptions to reflective essays and education research reports. Straight-forward, lively writing that is clear and jargon-free will reflect the kind of excitement and enjoyment that are hallmarks of both teaching and research at their best.

The editor and her associate editors encourage all physiology teachers to write and submit scholarly reports of their educational innovations, observations, and experiments. The editors look forward to publishing a discourse on teaching and learning that will raise the status of physiology education, aid physiologists' academic development, and help ensure the high quality of future physiologists and health care professionals.

## State Science Day of Ohio



The APS and Ohio Physiological Society participated in the State Science Day of Ohio last summer and presented awards in recognition of the efforts of students interested in science and physiology.

APS member **E. Keith Michal**, Ohio State University (*far right*), presented the awards to (*left-right*) Rachel M. Tolan, Celina High School, Celina, OH; Jon A. Lee, Benjamin Logan High School, Bellefontaine, OH; Michael Kanatas, Upper Arlington High School, Upper Arlington, OH; and Karen Kim, Lakeridge Academy, Cleveland, OH.

## Meetings and Conferences

# Experimental Biology '93 New Orleans, Louisiana, March 28–April 1, 1993

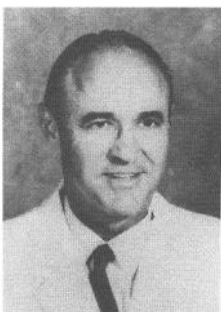
### Society Mixer

The APS Mixer (cash bar) will be held in the New Orleans Hilton Hotel, Grand Salon, Suite D on Sunday, March 28, 9:00 pm to midnight. Come and enjoy the delicious desserts and dance the evening away.

### Business Meeting

The APS Business Meeting will be held on Wednesday, March 31, at 6:15 pm following the Cannon Lecture in the Convention Center Room 5/7/9. President **Stanley Schultz** encourages all members to attend.

### Arthur C. Guyton Physiology Teacher of the Year Award



The first annual Arthur C. Guyton Physiology Teacher of the Year Award, supported by the W. B. Saunders Company, will be presented at APS Teaching of Physiology Section dinner on Sunday, March 28, 7:00 pm, at the Convention Center, Room 10. Guyton, the 47th President of the APS, will be in attendance to present the award to an APS member who is a full-time faculty member of

an accredited college or university. The awardee must be involved in classroom teaching and not exclusively teaching of graduate students in a research laboratory.

### Bowditch Lecture

The Bowditch Lecture, "Leukocyte Transit Through the Lungs," will be held on Monday, March 29, at 5:15 pm in the Convention Center Room 5/7/9. The lecturer is **Claire M. Doerschuk**, Department of Pediatrics, Indiana University, Indianapolis.

### Physiology in Perspective Walter B. Cannon Memorial Lecture

The Cannon Lecture, "Potassium Homeostasis: Regulation Through Pumps and Channels," will be held on Wednesday, March 31, at 5:15 pm in the Convention Center Room 5/7/9. The lecturer is **Gerhard Giebisch**, Department of Cellular and Molecular Physiology, Yale University, New Haven.

### Teaching of Physiology Award Dinner

Plan to attend the presentation dinner for the first Arthur C. Guyton Physiology Teacher of the Year Award, sponsored by the W. B. Saunders Company. The dinner is on Sunday evening, March 28, 1993, 7:00–9:00 pm at the New Orleans Hilton Hotel. A buffet dinner of pasta, seafood, jambalaya, and fruit will be served.

For tickets, mail the form below with checks payable to the "APS Teaching Section," c/o Roger Thies, Department of Physiology, University of Oklahoma Health Sciences Center, Oklahoma City, OK 73190. Deadline is March 15, 1993.

\_\_\_\_\_ Number of tickets requested at \$25.00 each  
\_\_\_\_\_ Amount enclosed

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_



## Young Investigator Award for Regulatory and Integrative Physiology

The Young Investigator Award for Regulatory and Integrative Physiology will be presented to a young investigator under 40 years of age who has made important contributions to our understanding of the integrative aspects of cardiovascular, renal, and neuroendocrine physiology in health and/or disease. The first annual award will be presented at the APS Water and Electrolyte Homeostasis Section luncheon business meeting, Tuesday, March 30, 11:30 am at the 3D Cafe, 746 Tchoupitoulas, New Orleans.

## Robert W. Berliner Award for Excellence in Renal Physiology



The Robert W. Berliner Award for Excellence in Renal Physiology, sponsored by Abbott Laboratories, will be presented by the Renal Section. The first award honoring the 40th President of the American Physiological Society will be presented at the annual APS Renal Dinner at 7:00 pm on Wednesday, March 31, at the Tavern on the Park, 900 City Park Avenue, New Orleans.

## Excellence in Science Lecture



APS member **Susan E. Leeman**, Department of Pharmacology and Experimental Therapeutics, Boston University School of Medicine, will receive the Excellence in Science Award. The award is supported by Eli Lilly and Company.

Leeman will present an Excellence in Science Lecture at the Experimental Biology '93 meeting in New Orleans on Wednesday, March 31, at noon in the Convention Center, Rooms 39/40. The title of the lecture is "The Peptides Substance P and Neurotensin: Discovery, Biochemical Characterization, and Some Physiological Roles."

## Imaging Techniques for Assessing Cell Function

Sunday, March 28, 3:00–6:00 pm  
Convention Center, Room 12

F. S. Fay and L. J. Heller, Chairs

Fluorescent analogs as tools for study of cytoskeletal dynamics. D. L. Taylor (Carnegie-Mellon University)

Photolabile caged probes as tools for the study of cellular physiological processes. J. Walker (University of Wisconsin, Madison)

Optical tweezers as tools for the study of intracellular molecular motors. S. Block (Rowland Inst., Cambridge, MA)

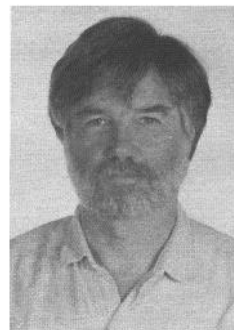
The digital imaging microscope as a tool for the study of local molecular changes underlying cell function. F. S. Fay (Massachusetts Medical School)

Sponsored by the APS Education Committee

## Space Life Sciences Lecture

Tuesday, March 30, 5:15 pm  
Convention Center Room 5/7/9

### "Access to Space Provides a Unique Insight Into the Evolution of Neuromotor Systems"



**V. R. Edgerton**

Department of Physiological Science, UCLA

Sponsored by the Lockheed Missiles & Space Company, Inc.

## Sections Special Functions

### Cardiovascular

#### Dinner

Tuesday, 6:30 pm

Hilton Grand Salon Suite A,

Section 2/3/5/6

### Cell and General Physiology

#### Steering Committee

Tuesday, 7:30 am

Hilton Marlborough Room, Suite A

### Banquet and Lecture

Tuesday, 6:30 pm

Marriott La'Galerie 6

### Comparative Physiology

#### Steering Committee

Tuesday, 7:30 am

Hilton Marlborough Suite A

### Social, Scholander Award,

#### Business Meeting

Tuesday, 5:30 pm

Convention Center Room 14

### Environmental and Exercise

#### Physiology

Steering Committee

Tuesday, 7:30 am

Hilton Eglinton/Winton Room

### Business Meeting

Tuesday, 5:00 pm

Convention Center Room 22

### Dinner

Tuesday, 6:30 pm

Hilton Melrose Room

### Epithelial Transport

#### Meeting

Tuesday, 7:00 pm

Convention Center Room 26

### Gastrointestinal

#### Steering Committee

Monday, 7:30 am

Hilton Chequers Room

### Business Meeting, Research Prize, and Lecture

Tuesday, 5:30 pm

Convention Center Room 27/29

### History of Physiology

#### Luncheon

Wednesday, Noon

Hilton Rosedown Room

### Renal Physiology

#### Dinner

Wednesday, 7:00 pm

Tavern on the Park

900 City Park Avenue

### Respiration

#### Steering Committee

Wednesday, 12:30 pm

Hilton Marlborough Suite A

### Dinner

Wednesday, 6:30 pm

Multae's

201 Julia Street

### Teaching of Physiology

#### Teaching of Physiology Award Dinner

Sunday, 7:00 pm

Hilton Grand Salon Suite B,

Section 9/12

### Steering Committee

Monday, 7:30 am

Hilton Prince of Wales Room

### Business Meeting

Tuesday, Noon

Convention Center Room 10

### Water and Electrolyte Homeostasis

#### Steering Committee

Monday, 7:30 am

Hilton Marlborough Suite A

### Business Meeting Luncheon

Tuesday, 11:30 am

3D Cafe

746 Tchoupitoulas

## High School Day at Experimental Biology '93

High School Day at Experimental Biology '93 is Monday, March 29, from 11:30 am to 2:00 pm. Small groups of high school students and teachers will tour the Experimental Biology '93 meeting. Tour guides are still needed. If you would like be a mentor, contact Daniel Richardson, Department of Physiology, University of Kentucky College of Medicine, Lexington, KY 40536. Tel: 606-233-5649; fax: 606-258-2866.

### Future Meetings

#### 1993

Experimental Biology '93

March 28–April 1, New Orleans, LA

#### APS Conference

Physiology and Pharmacology of Motor Control

October 2–5

San Diego, CA

#### APS Conference

Signal Transduction and Gene Regulation

November 17–20

San Francisco, CA

#### 1994

Experimental Biology '94

April 24–29, Anaheim, CA

#### 1995

Experimental Biology '95

April 9–14, Atlanta, GA

## APS Conference

**The Physiology and Pharmacology of Motor Control**

October 2–5, 1993  
San Diego, California

The cellular basis for intercellular communication among neurons is becoming increasingly well understood. For many neurotransmitters, their localization within the brain, as well as that of associated receptors, and their receptor-mediated effects have been established in great detail. The integrative action of these transmitters is critical in determining neuronal excitability and is an important component in the generation and control of complex behavior.

Movement is one of the main extrinsic actions of the brain and represents the orchestrated activity of many neurons; understanding the basis for the control and generation of movement is a fundamental problem of widespread interest. As the neuropharmacological processes that regulate the excitability of single neurons are increasingly revealed, it is a

major challenge to determine how these processes are integrated in large networks of neurons to generate and control movement. Furthermore, many diseases that affect movement, such as Parkinson's disease and Huntington's chorea, produce their pathologies by pharmacologically specific deficits; certain types of spinal cord injury may be ameliorated by pharmacological manipulation. Thus understanding the neuropharmacology of the control of movement is essential for the rational development of therapies for these devastating diseases.

The goal of this meeting is to bring together neuroscientists with special interests in neuropharmacology and/or control of movement to explore the frontiers of their respective specialties.

Saturday, October 2	Sunday, October 3	Monday, October 4	Tuesday, October 5
Overview Floyd E. Bloom	Neurotransmitters and receptors Floyd E. Bloom	Neurophysiology of control of movement on mammals James C. Houk	Disease of Movement Joseph B. Martin
Anatomy of neurotransmitter systems (distribution of neurotransmitters and associated receptors in spinal cord, brainstem, cerebellum, and other regions critical for the control of movement in vertebrates) Tomas Hokfelt	Neuropharmacology of movement control Sten Grillner	Neuropharmacology of motoneurons (spinal cord and cranial) Jack L. Feldman	Summation Joseph B. Martin
		Evening Banquet Keynote speaker to be announced	
	Afternoon Poster Sessions	Afternoon Poster Sessions	

**Deadline for receipt of abstracts is May 7, 1993.**

## 1992 APS Conference: Orlando

Walt Disney World, Epcot Center, Sea World, and many other area theme parks served as a backdrop for the APS Conference, "The Cellular and Molecular Biology of Membrane Transport." Fortunately, their proximity to the Conference did not draw the attendees from the exciting research being presented in the meeting rooms of the Orlando Hyatt Hotel. Organized by Douglas Eaton, Lazaro Mandel, and William Agnew, the conference featured an outstanding program that drew on the expertise of the APS and the Society for General Physiology to focus on aspects of membrane transport.

The organizing committee for the Orlando Conference, held November 4–7, 1992, focused on the "The Cellular and Molecular Biology of Membrane Transport." The scientific program consisted of five symposia, an opening lecture, and a banquet lecture, all of which focused on the use of contemporary cellular and molecular biological approaches to study two major aspects of membrane transport physiology of exercise. In addition, 142 abstracts were submitted to the conference and presented in 7 poster sessions.

Table 1 provides the distribution of abstracts based on submitting department. A total of 49 abstracts or 42.6% of the abstracts were derived from departments of physiology. However, if one includes departments with physiology in their names, the number increases to 65 abstracts or 56.5% of the total. Ten abstracts were received from authors in departments of medicine. Women were first authors on 33 abstracts (23.2%), and scientists residing outside of the Americas accounted for 26 abstracts (18.3%). Scientists from industry submitted 2 abstracts (1.4%), and those from government laboratories submitted 2 abstracts (1.4%).

Table 1. Departmental Distribution of Submitted Abstracts

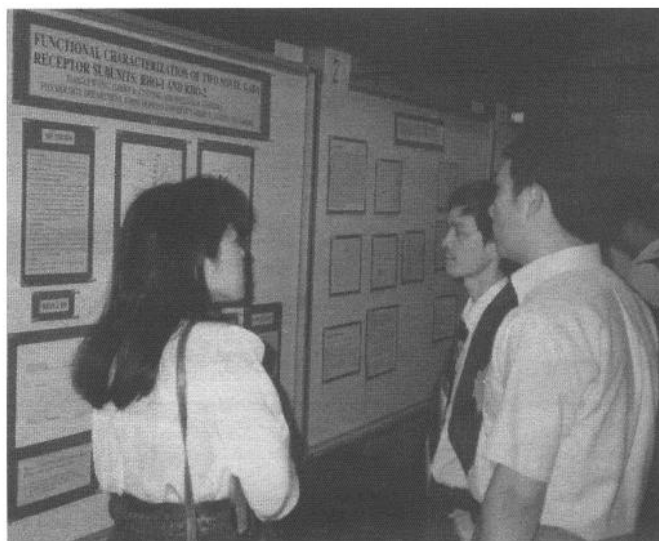
Department	Number (%)	
Physiology	49	(42.6)
Physiology/Biophysics	7	(6.0)
Cell & Molecular Physiology	5	(4.3)
Physiology & Cell Biology	2	(1.7)
Anatomy & Physiology	2	(1.7)
Medicine	10	(8.7)
Biochemistry	7	(6.0)
Molecular & Cell Biology	5	(4.3)
Pediatrics	5	(4.3)
Surgery	5	(4.3)
Pharmacology	4	(3.4)
Other	14	(12.2)
<b>Total</b>	<b>115</b>	

Table 2. Registration Statistics

Members	115
Nonmembers	87
Students	61
Emeritus	1
<b>Scientific Registration</b>	<b>264</b>
Guests	8
<b>Total Registration</b>	<b>272</b>

The 272 attendees (Table 2) started their meeting with a welcome reception, which was followed by an evening lecture presented by William Catterall on "Molecular properties of voltage-gated ion channels." The APS Banquet featured a presentation by Ron Kaback and presentation of the student awards. Kaback's presentation was entitled "The ins and outs of lactose permease of *Escherichia coli*." The organizing committee also recognized the achievements of four graduate students selected for their outstanding work. These outstanding young physiologists received a certificate and a check for \$500. The recipients of the student awards were Carla M. P. Ribeiro, Duke University; Gerald W. Zamponi, University of Calgary; Nirah H. Shomer, University of Minnesota; and Ming Pan, University of Florida, Gainesville.

The Society also continued the APS/NIDDK Minority Travel Fellowship Program for underrepresented minorities. Seven Fellows attended as guests of the APS and NIDDK,

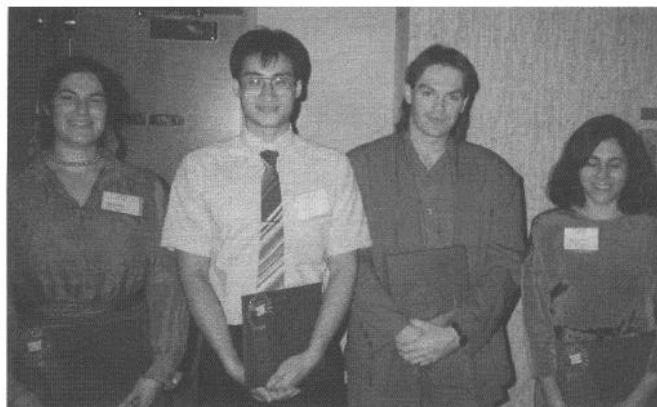


Poster Session.

receiving complimentary registration and reimbursement for travel and per diem expenses. The awardees for this Conference included Vera Averyhart-Fullard, University of Illinois, Chicago; Martin G. Martin, University of California, Los Angeles; Alexandro Ortiz-Acevedo, University of California, Davis; Rhoda A. Reddix, Ohio State University, Columbus; Victor Ruiz-Velasco, Tulane University, New Orleans; Alice R. Villalobos, University of Arizona, Tucson; and Owen I. Wilson, Tulane University, New Orleans.

Overall, the APS Conference on the "The Cellular and Molecular Biology of Membrane Transport" was an outstanding scientific success. The attendees' opinions of the Conference were so favorable that there was a suggestion made that the Conference be repeated in the future. Unfortunately, that suggestion cannot be pursued by the Society unless the membership submits a proposal for a future conference.

The American Physiological Society gratefully acknowledges the contributions in support of the 1992 APS Conference: The Cellular and Molecular Biology of Membrane Transport received from Abbott Laboratories; Sandoz Research Institute; Glaxo Incorporated; Genentech, Inc.; and ICI Pharmaceuticals Group.



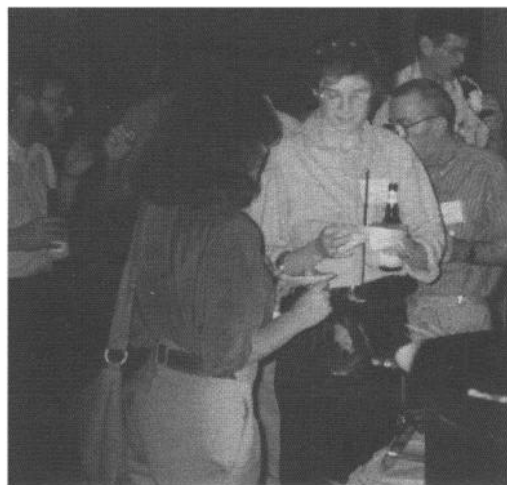
Student Award Recipients.



NIDDK Fellows.



Reception.



Reception.



# Membership

## Staff Directory

The APS offices are now accessible to the membership via e-mail through Compuserve, as well as via telephone and fax. Access via e-mail is easy and only a few keystrokes away. To reach any individual on the APS staff, it is only necessary to know their first name and send a message over e-mail as follows:

user name@APS.MHS.COMPUSE.RVE.COM.

The following individuals and/or offices can be reached as shown.

**Main Number** (with menu selections) 301/530-7164

### Executive Office

Executive Director: Martin Frank (marty@APS) 530-7118

Executive Assistant: Lorraine Tucker (lorraine) 530-7165

Secretary: Santa Vadala (santa) 530-7118

### Marketing Office

Coordinator: Jacqueline McKee (lin) 530-7015

### Membership/Meetings Office

Membership Services Mgr.: Linda Buckler (linda) 530-7172

Secretary: Kristin Deneau (kristin) 530-7171

### Public Affairs Office

Officer: Alice Hellerstein (alice) 530-7105

### Business Office

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Accounts Mgr: Jean Shao (jean) 530-7161

Asst. Bookkeeper: Penny Kirby (penny) 530-7160

Clerk Typist: Piya-rut Thoopsamoot (paula) 530-7160

### Publications Office

Publications Mgr.: Brenda Rauner (brenda) 530-7070

Administrative Asst.: Diane Bush (diane) 530-7070

Production Mgr.: Laurie Chambers (laurie) 530-7072

### Copy Editors

JN & AJP: Lung: Joan Adelman (joan) 571-8331

AJP: Cell: Virginia Bourgeois (virginia) 571-8323

AJP: Advances: Zeki Erim (zeki) 571-8330

AJP: Fluid: Mark Goodwin (mark) 571-8322

AJP: GI&L: Amy Hoodock (amy) 530-7163

AJP: Heart: Krysia Moore (krysia) 530-7177

AJP: Regulatory: Matt Petersen (matt) 571-8327

AJP: Endo: DeShaun Proctor (deshaun) 571-8324

JAP: Melinda Lowy (melinda) 571-1877

NIPS: Jacquie Salive (jacquie) 530-7166

Carl Cabading (carl) 571-8321

Beth Caseman (beth) 571-8328

Stephen Clausen (stephen) 530-7192

James Coll (james) 530-7184

Glenda Fauntleroy (glenda) 571-8329

Michael Folker (michael) 530-7069

Ruth Freehling (ruth) 571-8332

Elizabeth Hess (lizzie) 571-8333

Pamela MacKenzie (pamela) 530-7169

Nancy McClusky (nancy) 571-8325

Jennifer McLean (jennifer) 530-7185

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Mia Salvaris (mia) 530-7187

Mona Trang (mona) 530-7188

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Art Editor: Karen Cannon 571-1898

Asst. Art Editor: Eric Pesanelli 571-7134

### Subscriptions Office

Circulation Mgr.: Samer Masri (samer) 530-7080

Subscription Processor: Joanne Acevedo (joanne) 530-7080

Fax Machine—Publications Office 571-1814

Fax Machine—Other APS Offices 571-8305

If you have a specific issue or activity not encompassed by the above offices, please send your message to the Executive Director.

## Nominations for Honorary Membership

Members are invited to submit nominations for honorary membership. Send nominations and documentation of the candidate's contributions to physiology to the APS Honorary Membership Committee, 9650 Rockville Pike, Bethesda, MD 20814.

## News From Senior Physiologists

### Letter to Stanley Schultz

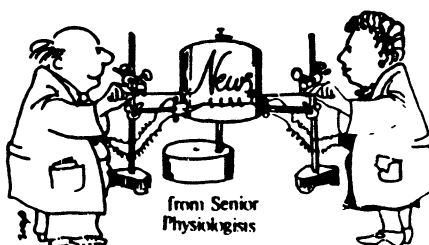
"I was 26 years old when I became a member of APS," writes **Benjamin Libet** from San Francisco, California. "During most of the last 35 years, my research efforts proceeded simultaneously in two very dissimilar directions: discoveries and analyses of slow synaptic phenomena in sympathetic ganglia, including a long-term modulatory enhancement produced by dopaminergic input . . . [and] the cerebral physiology of conscious subjective experience." The latter research involved "human patients, mostly those in whom electrodes happened to be implanted, for therapeutic purposes, in structures amenable to experimental study of the problem." He still continues with "active research and writing on the problems of brain and conscious experience."

Libet writes, "I shall try to continue with this very rewarding kind of experimentation and theorizing as long as my health, energy, and availability of patients and facilities continue. The option of giving up these activities was never a serious one for me. Carrying on in creative science has always been a way of life for me, not just a profession."

### Letters to Helen Tepperman

**John Bligh** writes from Cambridge, England, that he still spends "most mornings and many evenings setting out some accumulated and evolving thoughts about integrative and homeostatic physiology generally, and homeothermy particularly." The afternoons are "given over to walking the abundance of public rights-of-way over the Cambridgeshire countryside." He also makes one or two visits each year to the Carl-Ludwig Institute of

Physiology at the University of Leipzig where he has "teamed up with some retinal physiologists in an effort to evaluate the roles of the horizontal cells, and their involvement in crossing inhibition between on-line pathways from the photoreceptors and into the optic nerves. . . . My interest in reciprocal crossing inhibition stemmed from its apparent role in thermoregulation."



"My early years, it now seems to me, were so much easier than of a research novice today," writes Bligh. "The early 1950s were halcyon days. The public believed that science could resolve all current and future problems; permanent jobs were fairly readily available; funding was fairly readily accessible, and there were fewer PhDs wanting a share of it. For the first 25 years of my research career, I never had to write a research proposal, nor to apply for promotion. Furthermore, I was largely left alone to enquire into the particular aspect of the functions of living things that intrigued me most."

Bligh became interested in problems of agricultural productivity: "The greatest problem that [then] faced mankind, it seemed to me some forty years ago, was how to keep agricultural productivity in step with the population rise, and so to avoid a massive verification of the Malthusian principle." As a result of these concerns, he began his career by studying thermoregulation and heat tolerance in agricultural livestock. Recently he has "started writing up my now 50-year old concern over population and food sup-

plies, and the more recent cause for concern over population-driven environmental pollution."

"I have a very active life," writes **Fred B. Benjamin** from Silver Spring, Maryland, "and expect to continue the same as long as my health allows it. However, my current activities have very little to do with physiology."

Benjamin retired from government service with the US Department of Transportation 13 years ago. He continued some professional activities, including some consulting work for the government, for the first eight years. "Gradually, I got more and more involved in civic activities (unpaid), and once you start with these things it is difficult to set a limit. So now I am as busy as when 'working'."

"I have the good fortune to be able to continue my two avocations, research and music," writes **Richard J. Bing** from Pasadena, California. "I have good coworkers, many from different countries, and we keep each other busy. It is a great blessing to get up in the morning to go to work. I have stopped teaching medicine at the bedside, but my laboratory work continues. Age has not blunted, it has only softened disappointment. I am grateful that my book, *Cardiology, the Evolution of the Science and the Art*, has been published, enriched by the contributions of many physicians and scientists."

"I also continue to write music. Music remains the other side of the coin, and fills the vacuum created by aloneness of old age. I have learned that although 'Materials and Methods' may change, the advances in science depend on imagination. My advice for a younger generation of scientists is to look at the beauty of the forest, without counting the trees."

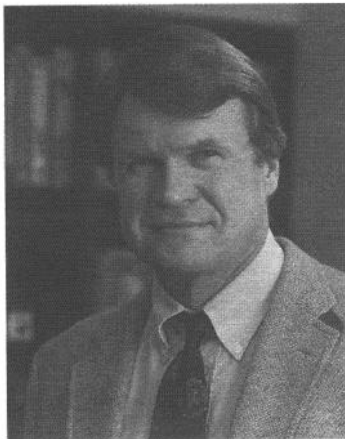
## Publications

### Introducing . . .

## Leonard R. Johnson

Leonard R. Johnson was appointed Chairman of the Publications Committee on January 1, 1993. He was a member of the Publications Committee from 1984 to 1987, associate editor of *AJP: Endocrinology, Gastrointestinal and Liver Physiology* from 1976 to 1979, and the founding editor of *AJP: Gastrointestinal and Liver Physiology* from 1979 to 1985. He was also a member of the FASEB Publications Committee from 1985 to 1988.

Johnson is the Thomas A. Gerwin Professor and Chairman of the Department of Physiology and Biophysics at the University of Tennessee Health Science Center in Memphis. He has a bachelor's degree from Wabash Col-



lege and a PhD in physiology with Horace W. Davenport at the University of Michigan in 1967. He spent two years as a postdoctoral fellow in gas-

trointestinal physiology with Morton I. Grossman at UCLA. Johnson moved to the University of Oklahoma Medical School as assistant professor in 1969 and to the University of Texas Medical School in Houston as a professor in 1972. He obtained his present position in 1989.

Johnson's primary area of research concerns the regulation of the growth of the gastrointestinal mucosa; he is currently involved in the role of polyamines in mucosal growth and regeneration. He has been a member of an NIH study section. His current research is supported by NIH. In 1988 Johnson received an NIH Merit Award. He was chairman of the Physiology Test Committee of the National Board of Medical Examiners. He is an honorary member of the Polish Physiological Society and holds an MD Honoris Causa from Copernicus Medical College.

## Call for Nominations for the Chief Editorship of *News in Physiological Sciences*

John T. Shepherd, Mayo Clinic, Rochester, Minnesota, USA, will complete his tenure as Chief Editor of *News in Physiological Sciences (NIPS)* in 1994. The Joint Managing Board of *NIPS* is soliciting nominations for his successor. The editor's responsibilities are to procure manuscripts on topics of current interest and importance to physiologists, to ensure that these manuscripts fulfill the criteria for publications in *NIPS*, to arrange with assisting editors for the timely submission of items to the various sections of the journal (Trendsetters, Notes, and Perspectives), and to interact with the Joint Managing Board on selection of associate editors and on policy for maintaining the standards of the journal for which the chief editor is ultimately responsible. Scientific excellence is the first criterion for inclusion of material in any and all departments of the journal, and readability is an im-

portant second.

The chief editor works closely with the journals publication office at the American Physiological Society headquarters in Bethesda. We anticipate that the incoming editor will follow in the tradition of the preceding editors in being a physiologist of international stature with broad interests in and understanding of the field from the molecular level to the level of the whole organism.

Please send nominations by May 1, 1993, with a letter emphasizing the qualifications of the nominee, to Editor Candidates, *NIPS*, Publications Department, American Physiological Society, 9650 Rockville Pike, Bethesda, Maryland 20814, USA.

Selected candidates will be interviewed by the Joint Managing Board at a time and place of mutual convenience.

Introducing . . .

## D. Eugene Rannels

On January 1, D. Eugene Rannels assumed the responsibilities of Editor of the *American Journal of Physiology: Lung Cellular and Molecular Physiology* to fulfill the unexpired term of Donald Massaro, who had served as editor for four and one-half years. The new editor is Professor and Vice Chairman of the Department of Cellular and Molecular Physiology at the College of Medicine of Penn State University in Hershey, Pennsylvania.

He was granted a PhD in physiology from The Pennsylvania State University and, following postdoctoral work at the Penn State College of Medicine, rose through the academic ranks in his current department. Rannels has worked as a Visiting Professor in the Department of Medicine at Duke University and at the Miasnikov Institute in Moscow, Russia. He serves as Director of the Graduate Program in Cell and Molecular Biology at Hershey and



holds a joint appointment as Senior Scientist in Pulmonary Biology in the Department of Anesthesia.

Rannels' research is focused on the physiological regulation of cellular growth and differentiation in the lung. He has published extensively on compensatory growth of the lung following pneumonectomy and particularly on

the hormonal regulation of this response. More recently, his work has emphasized regulation of growth and differentiation of type II pulmonary epithelial cells in the context of both compensatory lung growth and of type II cell interactions with the extracellular matrix.

The new editor plans to continue to strengthen and build *AJP: Lung Cellular and Molecular Physiology*, with the goal to position the journal in the forefront of pulmonary research. The journal will continue to emphasize publication of original reports of investigations at the cellular and molecular levels relevant to the pulmonary system. While high standards of review will be maintained, a concentrated effort will be made to speed and streamline the editorial process with the goal to accelerate publication.

The associate editors for the upcoming year include John Clements, Allen Cohen, Ewald Weibel, and Michael Welch. The editors look forward to continued growth of the journal and to serve both the Society and the authors who submit their work to the *AJP: Lung Cellular and Molecular Physiology*.

## New Clinical Physiology Series Book Published

In January a new Clinical Physiology Series book was published by the American Physiological Society and Oxford University Press. *Pathophysiology of Hypertension in Blacks*, edited by John C. S. Fray and Janice G. Douglas, examines much of the research that has been done to explain the pathogenesis of hypertension among black Americans. The book is divided into four sections. The first section considers genetic mechanisms of the disease. The second section examines the role of social, cultural, psychosocial, and socioeconomic factors in the pathogenesis of hypertension. The third area of the book deals with the role of urbanization and salt (both in and out of Africa), the role of diet, the role of intracellular ion metabolism, and the increasing significance of renin. The last section of the book summarizes the evidence presented in earlier chapters and also outlines therapeutic strategies that are effective in controlling blood pressure in hypertensive blacks. The volume will be valuable to both researchers and clinicians who study and treat hypertension in blacks. The volume has 300 pages, 25 illustrations, and is priced at

\$65.00. The APS member price is only \$42.25. (ISBN 019-506720-7.)

The Clinical Physiology Series was started in 1977, and 17 volumes have been published to date. Recent additions to the series are *Endothelin*, edited by Gabor M. Rubanyi (306 pages, 144 illustrations; APS member price, \$45.50; ISBN 019-506641-3); *Hypoxia, Metabolic Acidosis and the Circulation*, edited by Allen I. Arieff (232 pages, 116 illustrations; APS member price, \$35.75; ISBN 019-506062-8); *Response and Adaptation to Hypoxia: Organ to Organelle*, edited by Sukhamay Lahiri (272 pages, 97 illustrations; APS member price, \$42.25; ISBN 019-506244-2).

Clinical Physiology Series books may be obtained from Oxford University Press, Order Dept., 2001 Evans Road, Cary, NC 27513, USA. California residents add appropriate sales tax. Voice: 919-677-0977, fax: 919-677-1303. Please supply ISBN number when ordering books and indicate APS membership.

# XXXII Congress of Physiological Sciences

## Glasgow

August 1–6, 1993

With only six months before the Congress, around 6,000 preliminary registrations from all continents have been received. It looks as though the Congress is set to achieve its objective in attracting active physiologists from all over the world, with a wide range of disciplines, to the same place at the same time. The recent devaluation of the Sterling makes it in the interests of many overseas participants also to register as soon as possible, since at the moment devaluation with respect to most currencies stands at around 20%.

Some limited funds are available to assist delegates from developing countries and those experiencing difficulties with foreign exchange; however, these will by no means cover all the costs involved. Preference will be given to young active physiologists. Application forms and personal letters of invitation are available from Su Walton, OUPS Congress Office, Room F43, Hicks Building, University of Sheffield, Hounsfield Road, Sheffield S3 7RH; tel, fax (0742) 758688.

There are firm bookings for over 40 exhibition booths, and indications are that it will be a well-represented and interesting Trade Exhibition. Any suggestions of companies who might be interested in receiving a brochure would be welcomed; please help with promotion on all possible occasions.

### The Congress Book

Work on the Congress Book *The Logic of Life: The Challenge of Integrative Physiology* is proceeding on schedule. The draft chapters have been received and are being reviewed by the editors. The articles cover a wide range of disciplines including Non-Linear Systems and Self-Organization, The Evolution of Physiological Design, The Logic of Brain and Behavior, and Neuroendocrinology An Endangered Species. The spread and excitement of modern experimental biology is very evident. The enormous variety encompassed in the book makes a Congress covering these general themes not only topical but also a challenge in the future development of physiology as a uniquely integrative discipline. The Congress Book costs you nothing: it is part of the Registration Package.

### Local News

Glasgow has a unusual way of mixing enlightenment and leisure—many of its parks host the City's cultural venues. The Art Gallery and Museum is located in Kelvingrove Park in the West End, while the world's second largest collection of orchids grows in the Botanic Gardens. Travel back in time 300 million years by visiting the Fossil Grove in Victoria Park with its fossilized tree stumps and roots. The Pollok House, home to a famous collection of Spanish paintings, and the world-renowned Burrell Collection are in Pollok Country Park.

If you want to go further afield during your visit to Glasgow, you can visit Loch Lomond. This freshwater loch (lake) is a 30-minute drive from the City Centre and is surrounded by some of the most sublime scenery in Scotland. Purple mountains are a backdrop to green hills that frame the loch and its scattering of tiny islands. Visit the west side of the loch and the lovely village of Luss, well known to some Scots as the location of a Highland Soap opera, or meander up the quieter east side to Balmaha and Rowardennan whence the energetic can climb the famous Ben. Of course Loch Lomond is one of the destinations of the bus tours listed in the Congress Final Announcement. On this you'll get a chance to cruise the loch and visit a woollen mill. Even if it rains the trip is still colorful and you can say you've visited "the bonnie bonnie banks. . . ."

We are hoping to organize some additional evening events to those detailed in the Final Announcement. These will be, appropriate for the home of the game, golfing tournaments and a cruise to the Kyles of Bute.

### Reminder

The Congress starts on Sunday morning, August 1st. Remember this when you fill in your registration form. You may wish to arrive on Saturday, which of course enables you to benefit from the cheapest Apex fare arrangements.



# XXXII

32nd INTERNATIONAL CONGRESS  
OF PHYSIOLOGICAL SCIENCES



TO BE HELD AT  
**THE SCOTTISH EXHIBITION & CONFERENCE CENTRE  
AND GLASGOW UNIVERSITY**

**1st-6th August 1993  
Over 90 Symposia and 25 Themes**

## **THEMES INCLUDE:**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>- Ion Channels</li> <li>- Intracellular Ions</li> <li>- Synaptic Mechanisms</li> <li>- Sensory Transduction and Peripheral Processing of Sensory Information</li> <li>- Visual Systems</li> <li>- Cerebral Cortex</li> <li>- Learning, Memory and Development of the Nervous System</li> <li>- Somatic Sensation and Hearing</li> <li>- Neurophysiology of Motor Control</li> <li>- Striated and Cardiac Muscle</li> <li>- Smooth Muscle</li> </ul> | <ul style="list-style-type: none"> <li>- Endothelium</li> <li>- Cardiovascular System</li> <li>- Central Integration of Autonomic Function</li> <li>- Lungs and Breathing</li> <li>- Energetics and Exercise</li> <li>- Environmental Physiology</li> <li>- Comparative Physiology</li> <li>- Epithelial Transport Mechanisms</li> <li>- Secretory Pathways</li> <li>- Integrative Aspects of Gastrointestinal Physiology</li> <li>- Integrative Aspects of Renal Physiology</li> <li>- Neuroendocrinology and Endocrinology</li> <li>- Development</li> <li>- Behaviour Rhythms and Stress</li> </ul> |
|--|--|

Poster communications particularly welcome

Full Social Programme

Full Participation Registration Fee  
**£250 (before 17 April 1993)  
£300 thereafter.**

Discount fee for students £125.

Fee for person accompanying £100.

For Details & Registration Forms please complete and post the reply coupon.

(This coupon may be photo-copied if preferred)



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IUPS Congress

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Address: \_\_\_\_\_  
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Zip code: \_\_\_\_\_

## BOOKS RECEIVED

*Neuromethods 24: Animal Models of Drug Addiction.* Alan A. Boulton, Glen B. Baker, and Peter H. Wu (Editors). Totawa, NJ: Humana, 1992, 436 pp., illus., index, \$99.50.

*Measuring Alcohol Consumption: Psychosocial and Biochemical Methods.* Raye Z. Litten and John P. Allen (Editors). Totawa, NJ: Humana, 1992, 228 pp., illus., index, \$59.50.

*Drug Abuse Treatment.* Ronald R. Watson (Editor). *Drug and Alcohol Abuse Reviews.* Ronald R. Watson (Series Editor). Totawa, NJ: Humana, 1992, 206 pp., illus., index, \$59.50.

*Alcohol Abuse Treatment.* Ronald R. Watson (Editor). *Drug and Alcohol Abuse Reviews.* Ronald R. Watson (Series Editor). Totawa, NJ: Humana, 1992, 327 pp., illus., index, \$59.50.

*Stress, the Aging Brain, and the*

*Mechanisms of Neuron Death.* Robert M. Sapolsky. Cambridge, MA: MIT Press, 1992, 428 pp., illus., index, \$55.00.

*Physiology.* Third Edition. Robert M. Berne and Matthew N. Levy (Editors). St. Louis: Mosby Year Book, 1992, 1071 pp., illus., index, \$59.95.

*Gastrointestinal Transit: Pathophysiology and Pharmacology.* Michael A. Kamm and John E. Lennard-Jones (Editors). Bristol, PA: Wrightson Biomedical, 1992, 262 pp., illus., index, \$85.00.

*Regeneration and Plasticity in the Mammalian Visual System.* Dominic Man-Kit Lam and Garth M. Bray (Editors). Cambridge, MA: MIT Press, 1992, 252 pp., illus., index, \$75.00.

*Vision.* Pierre Buser and Michel Imbert. Trans. by R. H. Kay. Cam-

bridge, MA: MIT Press, 1992, 559 pp., illus., index, \$45.00.

*Dynamic Biological Networks: The Stomatogastric Nervous System.* Ronald M. Harris-Warrick, Eve Marder, Allen I. Selverston, and Maurice Moulins (Editors). *Computational Neuroscience.* Terrence J. Sejnowski and Tomaso A. Poggio (Series Editors). Cambridge, MA: MIT Press, 1992, 328 pp., illus., index, \$65.00.

*Normal and Disturbed Motility of the Gastrointestinal Tract.* Andre J. P. M. Smout and Louis M. A. Akkermans. Bristol, PA: Taylor & Francis, 1992, 313 pp., illus., index, \$65.00.

*Clinical Applications of Magnetic Transcranial Stimulation.* Mark A. Lissens et al. Leuven, Belgium: Peeters, 1992, 300 pp., illus., \$55.50.



Ambassador Chevy Chase  
Travel



The Official Travel Agent Announces  
**Travel Plans**  
to the  
**XXXII International Congress of  
Physiological Sciences**  
*Glasgow, Scotland ♦ August 1-6, 1993*

Plans are underway for complete travel arrangements to Glasgow, including:

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Hotel prices include breakfast, VAT and service. All prices quoted on October 1992 exchange rate and subject to change.

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## FASEB Societies Make Funding Recommendations

FASEB recommends that the National Institutes of Health should receive \$11.75 billion in Fiscal Year 1994 to enable the agency to continue its successful efforts to improve the nation's health through basic research. This recommendation was one of the key findings of a consensus conference held November 4-6, 1992, at FASEB's Bethesda campus.

The proposed NIH budget for the fiscal year that begins October 1, 1993, would represent a 13.4% increase over the agency's funding level for the current fiscal year. FASEB President Shu Chien released the recommendations at a December 3 press conference at the National Press Club in Washington, DC.

Basic biomedical research "is the most cost-effective approach to developing better and less expensive ways to prevent and treat disease and to improve the quality of life for our people," Chien said.

He noted that it also contributes to the solution of other challenges facing the nation by creating new jobs in industries such as biotechnology and pharmaceuticals in which the United States is a world leader. Chien emphasized the importance of basic research to these industries. "A critical factor in sustaining our competitive position is for basic research to continue to provide a stream of discoveries that can be translated into new products," Chien said. "Thus, it is vital to provide adequate federal support for a broad base of fundamental research, rather than shifting to an emphasis on applied research."

Participating in the November consensus conference that formulated the recommendations were members of all eight

FASEB Societies, including APS Public Affairs Committee Chairman Gabor Kaley and Fran Haddy, who represented APS. The conferees heard from officials of five federal agencies and then met privately to decide what funding levels FASEB would support this year in its advocacy efforts with the new administration and Congress. Highlights of the recommendations include the following:

- NIH should be able to support 6,800 new and competing research project grants and 14,020 training positions under the \$11.75 billion recommended for FY 1994. According to one unofficial estimate, NIH (including the institutes that were formerly part of the Alcohol, Drug Abuse, and Mental Health Administration) may only be able to fund 5,475 new and competing grants in FY 1993, down from 6,708 in FY 1992. Most training programs would be continued at their current levels, with a slight increase in the number of trainees only in the small Medical Scientist Training Program. Pre- and postdoctoral trainees would receive small but much-needed increases in their stipends.

- The budget of the National Science Foundation for Research and Related Activities should be doubled over the next five years. This is an updated version of the 1987 proposal to double the entire NSF budget by Fiscal Year 1992. For FY 1994, the conferees recommend a Research and Related Activities appropriation of \$2.129 billion, a 15% increase over FY 1993.

- The VA Medical Research Service should be provided with at least \$280 million as a first step toward revitalizing both the research program and Career Development Awards for VA physician-scientists. This is \$48 million more than the FY 1993 appropriation for this program.

- National Aeronautics and Space Administration's Life Sciences Division should be provided with \$50.72 million for competitive grants to sponsor research on how to ensure the health, safety, and productivity of humans in space. The conferees noted that many of the topics investigated in this small program are also important to human health on Earth, and 80% of the research grants supported by this program are for ground-based research. The conferees did not discuss issues relevant to Space Station Freedom.

- The Environmental Protection Agency's Office of Exploratory Research should be provided with \$26.25 million to support competitively reviewed extramural research. The agency should also continue to develop a scientific base for its decision-making.

For a copy of the "Report of the FASEB Consensus Conference on FY 1994 Federal Biomedical Research Funding," contact the FASEB Office of Public Affairs at 9650 Rockville Pike, Bethesda, MD 20814; (301) 530-7075.

Alice Hellerstein

## Workshop on Scientific Illiteracy at Experimental Biology '93

"Scientific Illiteracy: Impact on research and what can be done" will be the subject of a workshop in New Orleans at Experimental Biology '93 jointly sponsored by the APS Animal Care and Experimentation Committee and the ASPET Committee on Care and Use of Research Animals.

The workshop will be held Sunday, March 28, 1993, from 2:00 to 4:00 pm in Rooms 5, 7, and 9 at the Convention Center. Speakers will include Donald Frazier, Professor and Chair of the Department of Physiology at the University of Kentucky, Louisville, who will discuss his

statewide science hotline, 1-800-SCIENCE; and Roger Maickel, Director of the Laboratory Animal Program of Purdue University, who will discuss the 4-H experience in teaching young people to work with animals.

Jon Miller, Director of the Longitudinal Study of American Youth at the Public Opinion Laboratory at Northern Illinois University, will talk about public understanding of basic biomedical concepts. Also, Lloyd Michael, professor at Baylor College of Medicine, will speak on "Animals, Science, and the Classroom."

## APS Urges New York to Withdraw Animal Regulations Amendment

APS has urged the State of New York to withdraw a proposed amendment to its regulations concerning the care and use of living animals that would establish engineering standards for the care of animal research facilities in the state. In its comment letter, the APS also disagreed with the State Department of Health's assessment that the proposed amendment represents only a minor change in how existing animal care standards are enforced and will have virtually no effect on regulated parties in terms of cost or paperwork. Since the regulations to implement the Federal Animal Welfare Act rely on performance-based standards rather than on engineering standards, the proposed New York amendment would subject regulated institutions to unnecessary duplication and costs.

"The final assessment of the validity and/or usefulness of any regulation for animal use is whether it achieves the desired outcome," APS Executive Director Martin Frank wrote to the State Department of Health. Frank pointed out that the proposal presents

no evidence to justify its assertions that "many" laboratories and institutions regulated by New York State are not required to meet federal Animal Welfare Act standards and that animals are not being cared for humanely under existing regulatory standards.

Frank also noted that the Conditions of Approval for animal research might exclude much basic research. That section of the proposed amendment states that "the use of living animals at an institution must be for the purpose of contributing to the understanding, treatment, or prevention of problems in human or animal health" (emphasis added). "In the narrowest interpretation, this would eliminate the use of animals to understand basic physiological principles under normal conditions, which is the focus of much basic research," Frank commented.

APS urged the State Department of Health to withdraw the proposed amendment and to replace it with one that specifically addresses documented problems with the existing regulations.

## EC Plans Animal Test Ban for Cosmetics

The European Community's Council of Ministers unanimously agreed to ban any ingredient for cosmetic use that is tested on animals after January 1, 1998. The agreement, part of the EC's Cosmetics Directive, was reached on November 4, 1992, but allows the 1998 deadline to be extended for at least two years if validated nonanimal test alternatives assuring equivalent safety have not been developed. The decision to extend the effective date of the cosmetic test ban will be made by the Committee on the Adaptation of Technical Progress and the Scientific Committee on Cosmology. These committees are both comprised of scientific representatives from the EC member states.

This Council of Ministers' agreement replaces a proposal agreed to earlier this year by the European Commission and the European Parliament. That provision would have permitted continued animal tests of cosmetic ingredients only if the Commission and the Parliament deemed them necessary. It also contained no language requiring that an alternative to animals be validated before the ban take effect. That proposal was rejected by the Council of Ministers. The current proposal has already been accepted by the Commission and the Parliament and is therefore expected to be adopted after its second reading by the Council of Ministers.



## APS Introduces New T-Shirt

Reflecting on the importance of animal research to the health and well-being of all citizens, APS introduces a new T-shirt that states, "I'm Alive! Thanks to Animal Research." The T-shirt incorporates the logo from the Saving Lives Coalition in its design.

Join with your colleagues in promoting animal research by ordering your T-shirt. Each T-shirt is \$10.00 (\$13.00 for foreign orders). Use the form below and mail or fax your order to the APS office in Bethesda.

(See Council photo on p. 4 for a picture of the new T-shirt.)

## Clinton Selects Gibbons as Science Advisor

John Gibbons, the head of the Congressional Office of Technology Assessment, is President Clinton's choice for science advisor. Clinton, a nuclear physicist, has headed the agency responsible for providing credible advice to Congress on science and technology issues since 1979. Gibbons

previously spent 19 years at the Oak Ridge National Laboratory and headed its environmental studies program. In comments at the time his appointment was announced, Gibbons emphasized the interdependence of science and technology and the "increasingly central role" science plays in government.

## IACUC Guidebook Available

The Institutional Animal Care and Use Committee Guidebook developed by the Applied Research Ethics National Association (ARENA) and the NIH Office for Protection from Research Risks is available at a cost of \$13 per copy. To order, send a check or money order to ARENA, 132 Boylston Street, Boston, MA 02216.

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### T-Shirt Order Form

I would like to order the following shirt(s) (circle size and color):

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Size	L	XL	
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#### "Research Animals Save Lives"

Size	M	L	XL
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#### "Physiologists Know the Inside Story"

Size	M	L	XL
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#### "APS Founders"

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Mail to the APS, 9650 Rockville Pike, Bethesda, MD 20814. Tel: (301) 530-7118; fax: (301) 571-8305.



## Development of the Visual System

Dominic Man-Kit Lam and Carla Shata (Editors)  
Cambridge, MA: MIT Press, 1991, 299 pp., illus., index,  
\$65.00

This book is a compilation of the proceedings of the Third Annual Retina Research Foundation Symposia held on May 14 and 15, 1990 at the Woodlands, Texas. It focuses on the development of the vertebrate visual system at the cellular and molecular level. The symposia was sponsored by the Retina Research Foundation in collaboration with the Alice R. McPherson Laboratory of Retina Research of the Center for Biotechnology, Baylor College of Medicine, the Woodlands, Texas; The Woodlands Corporation; and Houston Biotechnology Incorporated.

The book is divided into five sections and, with the exception of the first section, follows the processing of visual information in the vertebrate eye—from the retina to the brain. Chapters are approximately 20 pages in length, follow a logical progression, and are written by well-established vision researchers. The coverage of individual topics is comprehensive and an excellent representation of research in the area of visual system development.

The first section of the book is a transcript of the lecture given by Seymour Benzer after receiving the Retina Research Foundation's 1990 Helmerich Award. Although it is a comprehensive review of the *Drosophila*'s visual system with emphasis on the strong homologies between the vertebrate and invertebrate systems, the lack of additional chapters by other well-established *Drosophila* researchers was disappointing. The explosion of information on visual system development in *Drosophila* has strong implications for developing research strategies for studying eye development in vertebrates.

An interesting section, "Cell Lineage and Cell Fate in Visual System Development," is devoted to the development of the vertebrate retina. The general theme of this section, the importance of the local environment and interactions on the determination of cell type in the visual system, is right on the mark of very recent research findings. Each chapter reviews retinal development in different species, such as mouse, fish, and frogs, before discussing current research (prior to May 1990). Because of this organization, one unfamiliar with the topic can acquire a broad overview. Especially noteworthy is the section on the teleost retina by Raymond, which serves to demonstrate the usefulness of the fish as an animal model in providing insights into retinal development.

Another well-presented section is the pathfinding and projections by retinal ganglion cells during development. From the information presented in this section, one is intrigued by the specificity and complexity of the visual system. The chapter by Holt, describing heterochronic eye transplants, is well worth reading and provides information about guidance cues and signaling. The glimpse into future research strategies at the end of the chapter was refreshing.

The final section of the book discusses developmental plasticity in the visual system. The first two chapters concern NMDA receptors and provide evidence that suggests their role in the development of the visual cortex. Understanding receptor mechanisms and their role in plasticity is among one of the key issues of developmental vision research, and therefore, highlights the importance of these chapters. In addition, with the recent advances in computational approaches to understanding informational processing, the chapter by Stryer on afferents in the developing mammalian visual

system is of interest.

In summary, the coverage of visual system development is broad based and informative. The chapters are well referenced and provide useful reviews on the topics. My main reservation about the book is that the symposium was held in 1990 and the book is, in a sense, dated. Yet the book can serve a useful purpose for scientists, in particular students, who want to learn important fundamental issues of visual system development.

Maria Y. Geovanni  
National Eye Institute  
National Institutes of Health

## Consciousness Explained

Daniel C. Dennett  
Boston, MA: Little, Brown, 1991, 511 pp., illus., index,  
\$27.95

In recent years, most neuroscientists have come to view brain functions as synonymous, at least in principle, with mind functions. Of course, we do not know yet all the details of how various mental operations are subserved by neural machinery. It remains to be seen whether we will ever be able to account for all human behavior in neural terms. Nonetheless, breakthroughs in the last two decades in the field of neuroscience, particularly the advent of fine-grained in vivo neuroimaging techniques (computed tomography, magnetic resonance imaging, positron emission tomography) and the development of sophisticated neuropsychological paradigms, have supported the accrual of a rather compelling set of information that supports the notion that brain facts and mind facts are one and the same.

Higher brain functions have regained a place of respect and prominence in modern-era neuroscience, following decades of eschewal prompted by the notion that such functions could never be "localized" in the human brain and by the influence of strict behavioristic psychology. Once again it has become fashionable to investigate the contests of human consciousness, and indeed, the very phenomenon of consciousness itself. In *Consciousness Explained*, Daniel Dennett presents a well-crafted summary of recent phenomena in this area and invites the reader to consider the implications of these findings for the understanding of consciousness. Does he accomplish the lofty objective set forth in the title? Probably not—most readers will be disappointed if they plunge into the book with the idea that they are about to have consciousness "explained" to them. Nonetheless, Dennett has provided a provocative and insightful analysis of the manner in which current findings from neuroscience can be brought to bear on the understanding of consciousness.

The basic objective of the book is twofold. First, Dennett presents a set of arguments against the historically attractive (but now generally discredited) notion of the Cartesian Theatre, which posits that consciousness can be understood as presentation on an internal state to an audience that sits at the pinnacle of neural function. As Dennett points out, the Cartesian Theatre approach requires identifying the audience; unfortunately, no such audience has ever been pinpointed, and attempts to do so tend to lead one either to a sort of infinite regress or to the unfashionable position of dualism.

The second main thrust of Dennett's presentation is to replace the Cartesian Theatre approach with something he terms the "multiple drafts model" of consciousness. In this formulation, "there are multiple channels in which specialist circuits try, in parallel pandemoniums, to do their various things, creating Multiple Drafts as they go. Most of these fragmentary drafts . . . play short-lived roles in the modulation of current activity but some get promoted to further functional roles, in swift succession, by the activity of a virtual machine in the brain. The seriality of this machine . . . is not a 'hard-wired' design feature, but rather the upshot of a succession of coalitions of these specialists."

Dennett chides other authors, philosophers, and neuroscientists alike, for sidestepping the "Hard Question" of consciousness, i.e., for writing about the functions and results of consciousness as if they were being "presented" somewhere in the brain, without specifying the recipients of such presentations. He may very well be right about this, and even if his own explication is not much more than a substitution of one set of metaphors for another (as he himself points out in the final paragraph of the book), he has at least confronted head-on the "audience issue" and other central questions regarding the nature of consciousness. Skillful writing, combined with Dennett's apparent confidence and obvious enthusiasm for the topic, make for a provocative, if not compelling, exposition.

Dennett's approach is heavy on phenomenology and philosophy and light on neurobiology, particularly at subcognitive levels. His arguments do not incorporate many fundamental sets of knowledge regarding the biology of consciousness, including well-established findings regarding phenomena such as sleep, attention, and arousal. Some readers will conclude that Dennett has presented too much philosophy and not enough neurology; others will come away thinking that he is philosophizing about the wrong things. For the purposes of this book, however, Dennett's choice of illustrative and supportive data seems quite consistent with the overarching framework of his arguments. He focuses on some of the most revealing new findings from cognitive neuroscience, including such discoveries as blindsight and nonconscious face recognition, which have in fact shed considerable new light on the relationship between the brain and consciousness.

The book is full of credible anecdotes, clever "thought experiments," and charming literary references, which are a great strength of Dennett's work but also probably one of its most important weaknesses. Dennett's frequent direct interactions with the reader, the numerous invitations to try this mental exercise or that, and the asides and allusions make for engaging reading but in the end detract from the fundamental objective of explaining consciousness. It would take considerable culling, and a good deal of time and effort, to distill a concise summary of Dennett's "theory" of consciousness and the principal supporting arguments. Thus the qualities that make this book great fun to read, and that will entice many readers well beyond a superficial perusal, may also encumber the comprehensibility and compellingness of Dennett's arguments. In the end, though, the book stands out as an engaging analysis of the implications of modern neuroscientific data for our understanding of consciousness.

Daniel Tranel  
University of Iowa College of Medicine

## **Myocardial Protection: The Pathophysiology of Reperfusion and Reperfusion Injury**

Derek M. Yellon and Robert B. Jennings (Editors)  
New York: Raven, 1992, 214 pp., illus., index, \$99.00

With the introduction of clinical treatment modalities for organ reperfusion in the 1970s, the 1980s may be designated as the renaissance of ischemia and reperfusion. While there is no clear-cut proof that in patients lethal injury to myocytes occurs as a consequence of reperfusion, in animal models reperfusion injury is reproducible, and the opportunity exists to explore the side effects of reperfusion and to identify the mechanisms. The fundamental problem can be summarized: if an organ is reperfused after a period of ischemia, is the cell death after the reperfusion a result of cell death during ischemia, or is it the result of cell death during reperfusion, as implied in the term reperfusion injury? What are the cellular mechanisms? The answer may influence how adjunctive therapy during angioplasty, bypass surgery, or thrombolysis will look like in the future. In this volume internationally acknowledged authors provide a summary of the issues and highlight the progress and the controversies in ischemia and reperfusion. Although the focus is almost exclusively on the heart, other organ disciplines will inevitably benefit from the cardiac experience, so I can recommend this volume to investigators in all medical areas with an interest in ischemia.

Chapters 1 and 2 provide a summary of the definitions and a historical background to reperfusion by the editors (D. Yellon and R. Jennings) and by D. Hearse, respectively. Chapters 3 and 4 discuss the evidence for two mechanisms that are believed to participate in myocardial injury, e.g., oxygen free radicals (J. M. Downey and D. M. Yellon) and neutrophil and endothelial activation (K. M. Mullane and M. Young). R. Kloner and K. Przyklenk (chapter 5) and R. Bolli (chapter 6) discuss and microvascular no-reflow phenomenon and stunning of the heart, and K. Fox gives a summary of the clinical trials for thrombolytic therapy (chapter 7). An interesting twist to reperfusion injury is the observation that repeated episodes of ischemia render the heart resistant to injury, the preconditioning phenomenon. Preconditioning is the subject of chapter 8, written by its discoverer's K. Reimer and R. Jennings. The potentially important protection of the ischemic myocardium by heat shock proteins is discussed by Yellon and Latchman (chapter 9). The final chapter by L. Opie provides a synthesis of the main observations and concerns in the field and contains suggestions for future clinical trials. The reference lists in each chapter are comprehensive and authoritative, the selection of illustrations serve to bring out the main issues, and the discussions are focused and translucent. Definitions are highlighted and used consistently throughout the book. While the main phenomena involving ischemia and reperfusion are clearly defined, all authors agree that there is yet no resolution of the origin and mechanism of reperfusion injury. What is missing from the discussion? Perhaps the role of nitric oxide as an anti-inflammatory system and maybe a detailed sequence of the events at the single cell level. The hope is that resolution of the origin of reperfusion injury will have more than just an impact on clinical practice but instead also supply insight into mechanisms of cell dysfunction during aging or disease. In the meantime this book will stand as a key reference for cardiac reperfusion research in the 1980s.

Geert W. Schmid-Schoenbein  
University of California, San Diego

**John D. Strauss**, formerly of Ladenburg, Germany, is now with the Department of Physiology, University of Virginia, Charlottesville.

Formerly at Michigan State University, **William S. Spielman** is now the Director of the Department of Renal Pharmacology, SmithKline Beecham Pharmaceuticals, King of Prussia, PA. Spielman has been a member of APS since 1979.

**Jeffrey Schwartz** has moved to the Department of Obstetrics and Gynecology, The Bowman Gray School of Medicine, Wake Forest University, Winston-Salem, NC. Schwartz was at Monash University, Australia.

**Kathy L. Ryan**, University of Texas Health Sciences Center, has moved to the Department of Biology, Trinity University, San Antonio, TX. Ryan was elected to APS membership in 1985.

APS member **Gary B. Ellis** is now Director of the Office for Protection from Research Risks, National Institutes of Health, Bethesda, MD. Ellis was formerly with the Institute of Medicine.

Formerly at Louisiana State University, **Charles H. Lang** is now with the Department of Surgery, State University of New York at Stony Brook. Lang was elected to APS membership in 1983.

**Kenneth T. Dodd**, Walter Reed Army Institute of Research, is now a research physiologist at the Jillette Research Institute, Gaithersburg, MD.

**Karen Alice Munger** has moved to the VA Medical Center, Atlanta, GA. Formerly at the University of Pittsburgh, Munger was elected to APS membership in 1991.

APS member **Samuel O. Thier** is now at Brandeis University, Waltham,

MA. Thier was elected to membership in 1972.

Formerly at the University of Wisconsin, **William C. Stanley** is now with Syntax Research, Palo Alto, CA.

APS member **Michael J. K. Harper** is with the Department of Obstetrics and Gynecology at Baylor College of Medicine. He moved from the University of Texas Health Sciences Center.

**James Anderson** is now at the University of North Carolina, Chapel Hill. He was formerly at Queen's University, Kingston, Ontario, Canada.

APS member **Norman F. Paradise** has moved from the University of Akron to the Department of Surgery Education, Iowa Methodist Medical Center, Des Moines.

**Jay H. Stein** is Senior Vice President and Provost for the University of Oklahoma Health Sciences Center, Oklahoma City. Stein was formerly at the University of Texas Health Sciences Center.

**Peter J. Hornsby** has moved from the Medical College of Georgia to the Baylor College of Medicine, Houston.

APS member **Richard C. Moon** has moved from the ITT Research Institute to the Specialized Cancer Center, Chicago, IL.

**W. McDowell Anderson** has relocated to the James A. Haley VA Hospital, Tampa, FL, from the VA Medical Center, Shreveport, LA.

**Barbara J. Rolls**, formerly of the Department of Psychiatry at the Johns Hopkins School of Medicine, has accepted the Jean Phillips Shibley Professorship in Biobehavioral Health at the Pennsylvania State University. Rolls has been an APS member since 1985.

## Bernard Fisher Receives Cancer Research Award

**Bernard Fisher** has received the 1992 Brinker International Breast Cancer Award for clinical research. The award is presented by the Susan G. Komen Breast Cancer Foundation of Dallas.

An APS member since 1956, Fisher is distinguished service professor of surgery at the University of Pittsburgh Medical Center, where he earned both his bachelor's and medical degrees and has been a member of the medical faculty for 33 years. He was recently elected president of the American Society of Clinical Oncology.

The foundation cited Fisher's work in establishing the safety and effectiveness of breast-preserving surgery and in documenting a curative role for adjuvant hormonal and systemic therapy. Fisher is responsible for the first major breast cancer prevention trial in the United States, using the anti-estrogen drug tamoxifen.

### Positions Available

There is a \$25 charge per issue for each position listed. A check or money order payable to the American Physiological Society must accompany the order. Purchase orders will not be accepted unless accompanied by payment. Ads not prepaid will not be printed. Copy must be typed double spaced and is limited to 150 words. All copy is subject to the editorial policy of *The Physiologist*. EOAAE indicates Equal Opportunity/Affirmative Action Employer and appears only when given on original copy. Copy deadline: copy must reach the APS office before the 15th of the month, two months preceding the month of issue (e.g., before February 15th for the April issue). Mail copy to APS, 9650 Rockville Pike, Bethesda, MD 20814.

### People and Places

People and Places notices come almost exclusively from information provided by members and interested institutions. To ensure timely publication, announcements must be received at least two months (by the 15th of the month) before the desired publication date. Send all information to *The Physiologist*, APS, 9650 Rockville Pike, Bethesda, MD 20814.

**Electrophysiologist.** Tenure track faculty position. The Cardiovascular Division of the Department of Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA is recruiting an electrophysiologist (MD or PhD) interested in analysis of ion channels relevant to cardiac function. The successful candidate will be expected to lead his/her own strong research program, as well as to interact with other basic scientists in the Cardiovascular Division. The academic level is flexible and will depend on the experience and qualifications of the applicant. Applicants should send a CV and names of three potential references to T. W. Smith, Cardiovascular Division, Brigham and Women's Hospital, 75 Francis Street, Boston, MA 02115. Applications from women and underrepresented minorities are encouraged. [EOAAE]

**Postdoctoral Fellow/Cardiac Physiologist.** US Citizen or Resident qualifying for NIH Training Grant needed to join an extensive program directed to the electron optical exploration of cardiovascular function through energy filtered electron-microscopy x-ray mapping, electron probe microanalysis, and electron energy loss spectroscopy. These methods are used to image quantitatively the calcium content and phosphorylation of cellular and subcellular membranes and organelles, measure subcellular ion transport, and relate the structural findings to normal and abnormal (e.g., arrhythmias) cell function. The candidate must have demonstrated experience with physiological studies of isolated cardiac preparations. Preference will be given to applicants with experience in electrophysiological studies of isolated cardiac myocytes. The interested candidate will be responsible for the conduct of the preparatory and correlative physiological studies and will also have the opportunity to be trained in the electron optical methods used for these studies. Address applications with Curriculum Vitae and a list of three referees to Avril V. Somlyo,

Department of Molecular Physiology and Biological Physics, Box 449 Jordan Hall, Health Science Center, University of Virginia, Charlottesville, VA 22908.

**Exercise Science: Assistant/Associate Professor** in Applied Physiology program within Department of Movement Sciences. Two-year appointment tenure track. Position requires leadership in developing new program—emphasis on muscle functions underlying human movement. Qualifications include competencies in computer-based analysis of EMG signals and in clinical applications of basic research (e.g., strength training, fatigue and performance, rehabilitation, injury prevention). Teach graduate courses; maintain active research program suitable for external funding; direct doctoral dissertation research. Earned doctorate, postdoctoral experience in research or teaching required. Candidates must be committed to excellence in teaching. Send letter of interest, Vitae, brief statement of research plans, copies of publications, list of three references to Ronald DeMeersman, Teachers College, Columbia University, New York, NY 10027. Candidates whose qualifications and experiences are directly relevant to complementary College priorities (e.g., urban and minority concerns) may be considered for a higher rank than advertised. [EOAAE]

**Biomechanics: Assistant Professor** in Motor Learning program. Position requires competencies in kinematic/kinetic analysis of human movement as applied to study of skill learning, development, or neuromotor processes. Teach graduate courses; design/supervise research in clinical settings; maintain active research program; direct doctoral dissertation research. Earned doctorate required; postdoctoral experience in research or teaching preferred. Research publications should provide evidence of potential for external funding. Candidates must be committed to excellence in teaching. Send

letter of interest, with a brief statement of research plans, copies of publications, list of three references to William G. Anderson, Teachers College, Columbia University, New York, NY 10027. Candidates whose qualifications and experiences are directly relevant to complementary College priorities (e.g., urban and minority concerns) may be considered for a higher rank than advertised. [EOAAE]

**Postdoctoral Position.** Applications are invited for a postdoctoral position in the Department of Physiology and Biophysics at the University of Nebraska Medical Center. The department is interested in recruiting an individual with a research background in microcirculatory or endothelial cell function and/or macromolecular transport. Please send a current Curriculum Vitae and the names of three references by April 1, 1993 to William G. Mayhan, Associate Professor, Department of Physiology and Biophysics, University of Nebraska Medical Center, 600 South 42nd Street, Omaha, NE 68198-4575. Minorities and women are encouraged to apply. [EOAAE]

**Postdoctoral Position, Cardiovascular Bioengineering Training Program.** The University of Washington is accepting applications for postdoctoral position for training in cardiovascular-related physiology and bioengineering. This program is designed primarily for MDs who wish to undertake two years of training in scientific investigation to prepare for academic careers in clinical or basic science investigation in the health sciences. Individuals holding PhD degrees are also eligible. The University of Washington is strongly committed to increasing the number of minorities entering careers in cardiovascular and pulmonary studies and to this end encourage application by minority candidates. For further information and application forms, write to James B. Bassingthwaighe, Center for Bioengineering, WD-12, University of Washington, Seattle, WA 98195.

## APS Sustaining Associate Members

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



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Harvard Apparatus  
Hoechst-Roussel Pharmaceuticals, Inc.

\*Hoffman-La Roche, Inc.  
ICI Pharmaceuticals Group  
Institut de Recherches Internationales  
Servier  
Jandel Scientific  
Janssen Research Foundation  
R. W. Johnson Pharmaceutical  
Research Institute  
Kabi Pharmacia  
Lederle Laboratories  
Eli Lilly & Company  
Lockheed Missiles & Space  
Company, Inc.  
Marion Merrell Dow Inc.  
McNeil Pharmaceutical  
\*Merck & Co., Inc.  
Miles Institute for Preclinical  
Pharmacology

NARCO Bio-Systems  
Pfizer, Inc.  
Pharmacia, Inc.  
Procter & Gamble Company  
Quaker Oats Company  
\*Sandoz Pharmaceuticals  
Corporation  
\*Schering-Plough Corporation  
G. D. Searle and Company  
SmithKline Beecham  
Pharmaceuticals  
\*Squibb Corporation  
Sterling Drug, Inc.  
Sutter Instruments Company  
\*The Upjohn Company  
Warner-Lambert/Parke Davis  
Waverly Press  
Wyeth-Ayerst Laboratories

\* Second Century Corporate Founders

## Scientific Meetings and Congresses

**International Training Course on Analysis and Manipulation of the Plant Genome**, Irapuato, Mexico, March 13–27, 1993. *Information:* Luis Herrera-Estrella, Unidad Irapuato, 36500 Irapuato, Gto., Mexico. Tel: (52-462) 5 16 00; fax: (52-462) 5 12 82.

**Animals in Space: Animal models in space physiology**, University of Bordeaux, France, March 15–17, 1993. *Information:* AAAF, M. J.-P. Sanfourche, 6, rue Galilée—75016 Paris. Tel: (33) 1 47 23 07 49; fax: (33) 1 47 23 07 48.

**International Training Course on Biotechnology of Cell Cultures**, Sao Paulo, Brazil, May 1–21, 1993. *Information:* Carlos Augusto Pereira, Instituto Butantan, Laboratorio de Imunologia Viral, Av. Vital Brasil 1500 CP 65, 05503-900 Sao Paulo, Brazil. Tel: 55.11.8137222 ext. 233; fax: 55.11.8151505.

**1st Congress on Physical Education and Sport**, Komotini, Greece, May 21–23, 1993. *Information:* Secretariat, 1st CPES, Democritus University of Thrace, Komotini, 69100, Greece. Tel: 0531 21764; fax: 0531 31298.

**NASA Space Station Freedom 1993**

**Utilization Conference**, San Francisco, CA, June 21–24, 1993. *Information:* Tel: (202) 479-5242; fax: (202) 863-8407.

**AASLD Single Topic Symposium: Liver Regeneration**, Airlie, VA, June 24–27, 1993. *Information:* American Association for the Study of Liver Diseases Single Topic Symposium, Registration Manager, 6900 Grove Road, Thorofare, NJ 08086-9447. Tel: 609-848-1000, ext. 213.

**Modelling of the Structure and Metabolism of Proteins and Amino Acids Workshop**, 3rd International Congress on Amino Acids, Vienna, August 23–27, 1993. *Information:* M. Hjelm, Institute of Child Health, London WC1N 1EH, England.

**1993 Computers in Cardiology Meeting**, London, September 5–8, 1993. *Information:* 1993 Computers in Cardiology Meeting, Centre for Biological and Medical Systems, MechEng Building, Imperial College of Science, Technology and Medicine, Exhibition Road, LONDON SW7 2BX, UK. Tel: 071 225 8525; fax: 071 589 6897.

**47th Annual Symposium, Society of General Physiologists**, Woods Hole, MA, September 8–11, 1993. *Information:* Society of General Physiologists, PO Box 257, Woods Hole, MA 02543.

## 1993 NRC Research Associateship Programs

The National Research Council announces the Research Associateship Programs that provide opportunities for PhD scientists and engineers to perform research on problems largely of their own choosing yet compatible with the research interests of the sponsoring laboratory.

Approximately 350 new full-time associateships will be awarded on a competitive basis for research in chemistry; earth and atmospheric sciences; engineering and applied sciences; biological, health, and behavioral sciences and biotechnology; mathematics; space and planetary sciences; and physics. Most of the programs are open to US and non-US nationals and to recent PhD recipients and senior investigators.

Applications to the NRC must be postmarked by April 15 and June 15 for reviews in June and October, respectively. Information on specific opportunities and participating federal laboratories, as well as application materials, may be obtained from the Associate Programs (GR430/D2), National Research Council, 21010 Constitution Avenue NW, Washington, DC 20418. Fax: (202) 334-2759.