

### **EDITORIAL**

# A Question of Ethics

Is scientific fraud a serious problem as suggested by fraud-buster Walter Stewart, on loan from the NIH to the subcommittee of Representative John Dingell (D-MI), or is fraud an anomaly that affects only a small number of projects?

When the highly publicized instances of data fabrication, plagiarism, and misrepresentation were uncovered in the early 1980s, most of us viewed such occurences as exceptions that reflected poorly on the scientific community. Indeed, since those early cases, NIH has been asked to investigate only a small number of cases.

The problem is that the lay public has put its trust in the scientific process and holds the scientific community up to higher standards of responsible ethical behavior than society at-large. Therefore, when questions are raised about the integrity of a Nobel Laureate and a former Director of the National Institute of Drug Abuse, the public's confidence in the integrity of the scientific process is greatly eroded.

This loss of public trust is the reason why the scientific community will be subjected to a continuation of hearings by Representative Dingell's subcommittee.

Scientific misconduct has also been the subject of a number of panels and workshops. The most recent was a study entitled "The Responsible Conduct of Research in the Health Sciences" conducted by the Institute of Medicine.

According to the report, various factors contribute to occurrences of scien-(Continued on p. 18)

# The sixty-second American Physio-Vernon S. Bishop,

American Physio-Vernon S. Bishop, the close of the Meeting in New

Bishop, a medicardiovascular reversity of Texas Center in San An-Aubrey E. Taylor nation's oldest biosociety.

Although a memfor 21 years, Bish-APS affairs was activities of the edi-*American Journal* 1984 when he was the Neural Control Section, which in served as the secchairman of the Section.

In 1987 Bishop membership to the was elected presilowing year.



Sixty-Second President of APS

Vernon S. Bishop

"... [APS] has the mechanism in which it can support the research needs of physiologists...." president of the logical Society is who was installed at Society's Spring Orleans.

cal educator and searcher at the Uni-Health Sciences tonio, succeeded as president of the medical sciences

ber of the Society op's involvement in largely contained to torial board of the of Physiology until elected secretary of and Autonomic subsequent years he tion's treasurer and Cardiovascular

was elected by the APS Council and dent-elect the fol-

His goal as president is for the membership "to become more involved in the programming activities of the Society."

In describing his views of the profession and the role of APS, Bishop said, "Physiology should be studied at all levels," adding that "the advances in molecular biology are timely and will lead to a better understanding of physiology at all levels. Moreover, the American Physiological Society must respond to the needs of physiologists by providing innovating programming.

"Biomedical research and technology are advancing so rapidly that in order to be competitive scientists must attend those meetings which meet their immediate research (Continued on p. 19)

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The Physiologist Published bimonthly and distributed by The American Physiological Society 9650 Rockville Pike Bethesda, Maryland 20814 ISSN 0031-9376

> Martin Frank, Editor and Executive Director

Vernon S. Bishop, President Aubrey E. Taylor, Past President Shu Chien, President-Elect

#### Councillors

Beverly Bishop, Allen W. Cowley, Jr., Brian R. Duling, Gerhard H. Giebisch, Stanley G. Schultz, and Peter D. Wagner

#### Ex Officio

Carl V. Gisolfi, Francis J. Haddy, Paul C. Johnson, R. Blake Reeves, and W. S. Spielman

#### EDITORIAL

(Continued from p. 17)

tific fraud and research misconduct. These include "pressures to publish or perish, an emphasis on competition and secrecy in research performance, and inadequate interaction of young researchers with their peers and mentors."

# The lay public has put its trust in the scientific process.

The report suggests that the argument that peer review will guarantee the integrity of science "is incorrect." The self-regulatory process has flaws since many studies are not repeated because it is "highly inefficient"; past "scientific skeptism" has been directed toward data interpretation, not the investigator's factual statements. "Trust . . . has been fundamental to scientific communication."

The report makes a number of suggestions on how the scientific community can address the problem.

The development of high professional standards of research practice by all grantee and applicant institutions should be fostered and monitored by an office within NIH. NIH should emphasize "quality over quantity" by limiting the number of publications that can be considered as part of a grant application. By

Publications Committe: Chairman, Paul C. Johnson; Members, Francois Abboud, John S. Cook, Melvin J. Fregly, and Stephen H. White. Publications Manager, Brenda B. Rauner; Editorial Staff, Laura North and Lorraine Tucker.

Subscriptions: Distributed to members as part of their membership; nonmembers and institutions, \$25.00 per year in the United States; elsewhere \$35.00. Single copies and back issues when available, \$5.00 each; single copies and back issues of Fall Abstracts issue when available, \$20.00. In 1989 subscribers to *The Physiologist* will receive it and the abstracts of the Fall Meeting of the American Physiological Society. The American Physiological Society assumes no responsibility for the statements and opinions advanced by contributors to *The Physiolgist*.

Deadline for submission of material for publication: Dec. 5, February issue; Feb. 5, April issue; April 5, June issue; June 5, August issue; Aug. 5, October issue; Oct. 5, December issue. If you change your address or telephone number, please notify the central office as soon as possible.

Headquarters phone: (301) 530-7164. TELE-FAX: (301) 571-1844. 1992, all institutions receiving NIH funds should be required to adopt policies to encourage responsible research practices. The study opposes NIH instituting a system of random data audits as a mechanism for ensuring responsible research.

Since the lack of formal discussion about responsible research practices is a serious flaw in the professional training of scientists, the study recommends that universities "should provide formal instruction in good research practices" and incentives and academic guidelines should be modified "to reduce the pressure for excessive publication."

The report also challenged professional and scientific organizations to "develop educational and training activities and materials to improve the integrity of research." In addition, professional journals must develop policies to promote responsible authorship practices.

The APS is taking the recommendations of the IOM study seriously. Under the direction of Allen Cowley, Jr., an adhoc committee is reviewing the Society's policies and formulating an ethics policy for our members. In addition, future APS meetings will include panel discussions and workshops to address the integrity of research.

The "question of ethics", however, is one that we must address as individuals. As we conduct our research and publish our papers, we must remain vigilant; for as the recent public disclosures suggest, the whole world is watching. It is up to us to prevent scientific misconduct and to ensure the integrity of biomedical research.

Martin Frank



(Continued from p. 17)

needs. And the American Physiological Society has the mechanisms in which it can support the research needs of physiologists: one is through programming; the other is through publications.

"But," he warned, "the value of both of these mechanisms depend upon the input from members."

To this end, he issued an invitation to all APS members to become actively involved in the Society's programming.

"With the change to having only one annual meeting, the Society is now willing to sponsor specialized meetings," Bishop said, "thus, affording an opportunity for members to construct conferences that meet their immediate needs."

Bishop also noted that the journals published by the Society continue to be najor journals for communicating biomedical research. "It is critical that we maintain the status of these journals," he said, "and, again, members must participate in the process."

What Bishop will use to measure his year as president will be the response from the membership-at-large in terms of ideas and suggestions to the program committee, publications committee, and journal editors.

Vernon Spilman Bishop, 53, has never moved far from his roots of Kansas, Texas, and Mississippi. He was born in McPherson, KS, and grew up in College Station, TX, and Grenada, MS. Both his baccalaureate and doctorate degrees are from Mississippi institutions and his Masters degree is from the University of Kansas. And with the exception of brief stints in California, his career path has led to Texas institutions. As a result he is the first from a Texas institution to serve as president of the 103-year-old society.

Bishop received a Bachelor of Science Degree in Physics from Mississippi College in 1958 and was awarded an Atomic Energy Commission Fellowship to pursue a Master's of Science Degree in radiation biophysics at the University of Kansas, where he graduated in 1960 and elected to Phi Beta Kappa. The following year he served as an assistant professor of nuclear engineering at Texas A & M University.

In 1961 Bishop entered Arthur C. Guyton's graduate program in physiology and biophysics at the University of Mississippi Medical Sciences Center where in 1964 he earned a doctorate degree. In graduate program with Bishop was Aubrey Taylor, who also earned his doctorate that same year.

Upon graduation, Bishop returned to his previous post at Texas A & M for a year before going to the Cardiovascular Research Institute at the University of California Medical School in San Francisco to continue his training in cardiovascular physiology as a postdoctoral fellow.

From there he returned to Texas, this time to the biodynamics section of the School of Aviation Medicine at Brooks Air Force Base where he investigated the effects of gravity on cardiovascular function.

In 1968 Bishop was appointed associate professor of pharamacology at the San Antonio Health Sciences Center where he has been active in his research as well as in medical and graduate education. Among his major appointments at the center have been the chairmanships of the medical curriculum review committee, graduate studies committee, medical school faculty assembly, and the graduate faculty assembly. In 1973 he was promoted to professor.

Bishop's interest in cardiovascular regulation stems from Guyton's laboratory where, as a student, Bishop was one of the first investigators to study the cardiovascular system in conscious animals. His work in this field since that time has led him to a variety of activities with the American Heart Association and its Texas affiliate and San Antonio chapter.

In addition to his responsibilities as president, Bishop will continue to serve the American Journal of Physiology: Heart & Circulatory Physiology as editor and AJP: Endocrinology & Metabolism as a member of the editorial board.

# **APS Election Results**

Shu Chien, Professor of Bioengineering and Medicine, University of California, San Diego, La Jolla, is the new President-Elect. The three newly elected Councillors (terms in parentheses) are Allen W. Cowley, Jr., Chairman, Department of Physiology, Medical College of Wisconsin, Milwaukee (1989–1990); Brian R. Duling, Professor and Vice Chairman, Department of Physiology, University of Virginia School of Medicine, Charlottesville (1989–1992); and Stanley G. Schultz, Professor and Chairman, Department of Physiology, Houston (1989–1992).



Shu Chien

#### President-Elect

"It is indeed a great honor for me to have the privilege to serve the Society. I am grateful to my colleagues for entrusting me with this important task, and I will fulfill my pledge to do my very best. Together we will build on the momentum that has been generated in recent years and move our Society forward with vigor."



Allen W. Cowley, Jr.

Councillors

Brian R. Duling



Stanley G. Schultz

# **APS/ATS 1989 Fall Meeting**

The 1989 Annual Meeting of the American Physiological Society will be held October 15–19 at the Mayo Civic Center, Rochester, Minnesota. The American Thoracic Society will participate in the meeting as a conjoining society.

A local organizing committee, chaired by Joseph Szurszewski, has helped to give the meeting a uniquely Mayo flavor. The institutional expertise in smooth muscle and imaging techniques will complement the elements of the program organized by the APS/ATS program advisory committee. The theme "Mechanisms of Smooth Muscle Function" will be developed through the presentation of 18 symposia while the method's theme, "The Role of Imaging Techniques in Physiological Investigation," will feature 6 symposia.

Both themes will feature plenary symposia on Monday, October 16, which will be teleconferenced to the Mayo facilities in Scottsdale, Arizona and Jacksonville, Florida. Students at

### Monday, October 16 (Plenary)

- A.M. Physiology of Smooth Muscle Chair: J. H. Szurszewski
- P.M. Imaging for Physiology Chairs: R. A. Robb and E. L. Ritman

### Tuesday, October 17

A.M. Single Ionic Channels Chair: J. L. Rae Crossbridges in Smooth Muscle Chair: D. Warshaw Endothelium-Dependent Vasometer Responses Chairs: J. T. Shepherd and R. F. Furchgott Fundamentals of Imaging **Biological Structures and** Functions Chair: R. A. Robb Debate: Cell-to-Cell Conduction Across Gap Junctions Can Account for Electrical Syncytial Properties of Gastrointestinal Muscle Chairs: J. D. Wood, A. Bortoff, and N. Sperelakis Signal Transduction in Smooth P.M. Muscle Chair: D. J. Hartshorne Dynamics of Mucus Secretion

Dynamics of Mucus Secretion Chair: T. M. Dwyer Pulmonary Microcirculation: New Developments Chair: M. A. Matthay MR Spectroscopy in Humans Chairs: M. Barany and R. Millard

**Preliminary Program** 

### Wednesday, October 18

A.M. Transmitter and Receptor Operated Channels in Smooth Muscle Chair: D. E. Clapham Contractile Function and Regulation System in Smooth Muscle Chair: R. A. Murphy Cellular Mechanisms Involved in the Production of Myogenic Vascular Tone Chairs: G. A. Meininger and J. H. Lombard Organ Structure and Function by X-Ray CT Chair: E. L. Ritman P.M. Ionic Basis for Electrical

Rhythmicity in Smooth Muscle Chair: K. M. Sanders Signal Transduction and Ca<sup>2+</sup> in Smooth Muscle Chair: J. T. Stull Regulation of Pulmonary Blood Flow in Asthma Chairs: P. D. Wagner and N. F. Voelkel Measurement of Myocardial Metabolism and Blood Flow

the institutions close to these facilities will be invited to hear the plenary lectures. The two plenary symposia are "Physiology of Smooth Muscle," and "Imaging for Physiology."

Volunteered papers will be presented in poster format with discussion sessions to allow for fruitful interactions. The laboratories at Mayo will be opened for demonstrations of the latest techniques in smooth muscle physiology and imaging. Commercial and institutional exhibitors will be active participants in the meeting.

The APS Banquet and Past President's Address by Aubrey E. Taylor is scheduled for Tuesday, October 17. The Bowditch Lecture will be delivered by J. P. Granger, Eastern Virginia Medical School on Wednesday at 4:45 P.M., followed at 5:45 P.M. by the APS Business Meeting. All attendees are invited to an Opening Reception on Sunday, October 15, featuring the Turkey River All Stars Band.

with Positron Emission Tomography Chair: S. R. Bergmann *Bowditch Lecture:* "Atrial Peptides in Volume and Pressure Regulation." J. P. Granger

#### Thursday, October 19

A.M. Regulation of Airway Smooth Muscle Responses I and II Chair: A. R. Leff Hormonal Regulation of Vascular Smooth Muscle Function Chair: T. Inagami Cellular Dynamics of Pulmonary Artery I: Cell Biology Chairs: B. M. Twarog and R. A. Rhoades New Technologies in Microscopy Chairs: D. E. Clapham and S. R. Taylor P.M. Pulmonary Circulation Chair: A. E. Taylor

Chair: A. E. Taylor Cellular Dynamics of Pulmonary Artery II: Signal Transduction Chairs: B. M. Twarog and R. A. Rhoades Imaging Physiological Processes in Cells Chair: S. R. Taylor

# 1989 Bowditch Lecture Wednesday, October 18 4:45 P.M. Rochester, MN

"Atrial Peptides in Volume and Pressure Regulation"



Joey P. Granger Associate Professor Department of Physiology Eastern Virginia Medical School Norfolk, Virginia

APS Business Meeting Vernon S. Bishop, President 5:45 P.M.

> The American Physiological Society gratefully acknowledges the contribution received in support of the 1988 Fall Meeting from

- Fisher Scientific
- Johnson & Johnson
- · National Institute of Aging
- National Institute of Child Health & Human Development
- Pharmacia, Canada
- Quaker Oats
- Glaxo, Inc.
- American Cyanamid

# US/USSR Bilateral Physiology Exchange Program

The APS is soliciting applications for its bilateral exchange agreement with the Pavlov All-Union Physiological Society of the Soviet Union. The objective of the program is to facilitate ". . . dissemination of scientific information and exchange of expertise for the benefit of physiological sciences and mankind."

To accomplish the above objective, the agreement calls for

- exchange of information (books, journals, etc.)
- exchange of scientists
- · organization of joint symposia
- · reciprocal publication of scientific papers in journals of the other side

The scientist exchange program will allow visits of 3–4 investigators per year with the total time not to exceed 10 man-weeks. The host side is responsible for covering the in-country expenses of the visiting scientists. Scientists to be exchanged under the program must be approved by the other side. Invitations to the visiting scientist must be extended by the host society and institution(s).

For additional information and application materials contact US/USSR Bilateral Exchange Program in Physiology, American Physiological Society, 9650 Rockville Pike, Bethesda, MD 20814.

# **APS/ASPET 88**

The 39th Annual Fall Meeting, held October 9–13, 1988, in Montreal, Quebec, Canada, marked the first joint meeting of the APS with the American Society for Pharmacology and Experimental Therapeutics away from the annual FASEB Meeting. Joining APS/ASPET in Montreal were the IUPS Commission on Gravitational Physiology, the American Society for Clinical Pharmacology and Therapeutics, the Canadian Physiological Society, the Canadian Society for Clinical Pharmacology, and the Pharmacological Society of Canada.

The goal of APS and ASPET for this meeting was to make it a truly integrated and joint meeting. Both societies contributed symposia to the theme "Growth, Development, and Aging." In addition, the slide and poster sessions were scheduled by a joint program committee to reduce and/or eliminate session overlaps.

The 19 symposia comprising the theme were complemented by the inclusion of several workshops on molecular biology for physiologists and pharmacologists. ASPET organized a short course on "Second Messenger Systems" and a Graduate Student Convocation focusing on "Molecular Biological Approaches to the Study of Pharmacological Sciences." APS repeated its successful Mini-Course on Molecular Biology for Physiologists organized by Shu Chien. The tutorial and symposium sessions were complemented by the inclusion of a series of four workshops conducted by four biotech companies.

Dr. Gary Owen was the 1988 Bowditch Lecturer speaking on "Control of Hypertrophic vs. Hyperplastic Growth of Vascular Smooth Muscle." Dr. Harvey V. Sparks, Jr. presented the Past President's Address on the topic, "A Physiologist in Africa: Lending a Hand

# **CALL FOR PAPERS**

Have you received your *Call for Papers*? Deadline for receipt of abstracts is *June 2*, *1989*. Contact APS/ATS Meeting Office, 9650 Rockville Pike, Bethesda, Maryland 20814. Phone: (301) 530-7010.

in Developing Countries." After the presentation, Dr. Sparks was presented a walnut plaque with a Centennial Medallion commemmorating his service as the 60th President of the APS.

The scientific program for the 1988 Meeting consisted of 3 workshops, 4 practicum sessions, 6 lectures, 1 tutorial symposium, 38 symposium sessions, 3 instrumentation tutorials, and 1,327 volunteered papers. Of the volunteered papers, 49.09% (677) were contributed by ASPET members, 46.7% (645) by APS members, and 4.3% (60) by members of guest societies. The society designations exceed the total received because of dual society memberships. The volunteered papers were programmed in 36 slide sessions and 76 poster sessions.

For comparison with the 1987 Meeting in San Diego, Table 1 shows that the 1988 Meeting received 699 more volunteered papers because of the participation of ASPET and the guest societies. While ASPET members contributed more papers than APS members, many requested programming in APS categories. The joint meeting provides for the critical mass of papers necessary to make the meeting worthwhile for all attendees.

Female scientists were first authors on 275 volunteered papers or 20.7% of the total. Scientists residing outside of the Americas contributed 31 abstracts. Industrial scientists accounted for 188 volunteered papers. Scientists in US government laboratories contributed 92 abstracts. Of the abstracts acknowledging research support, 540 receive support from federal agencies (NIH, ADAMHA, NSF, VA, MRC, etc.), and 205 received support from various private foundations, associations, and/or companies.

Of the 818 abstracts designating departmental affiliation, 224 or 27.4% were from departments of physiology or physiology and biophysics. In addition, 292 or 35.7% were from departments of pharmacology. Table 2 provides additional information on the question, "Where do abstracts submitted to APS/ASPET 88 come from?" Ø

TABLE 1.	Volunteered	Papers by	<b>Physiological</b>	Category
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	1988 Papers			1987 Papers		
Category	No.	APS %	ASPET No.	APS/ASPET Total	No.	9%0
Aging	23	3 78				0.15
Cell & General	23	3.28 4.00	0	23	1	0.15
Comparative	20	4.00	0	28	9	1.43
Endocrine & Reproduction Environmental, Thermal,	41	5.84	6	47	30	4.78
& Exercise	51	7.28	0	51	69	10.98
Gravitational	22	3.14	0	22	6	0.96
Gastrointestinal & Liver	21	3.00	3	24	29	4.62
Heart & Circulation	152	21.70	78	230	128	20.38
Membranes & Transport	12	1.71	0	12	12	1.91
Metabolism	26	3.70	0	26	20	3.18
Muscle	33	4.70	28	61	31	4.94
Neurobiology & Neural						
Biophysics	33	4.70	147	180	25	3.98
Regulatory & Integrative	30	4.28	0	30	20	3.18
Renal & Electrolyte	27	3.85	19	46	14	2.23
Respiratory	135	19.26	30	165	123	19.58
Water & Electrolyte	35	5.00	0	35	10	1.59
History	0	0	0	0	2	0.32
Teaching Materials	3	0.42	0	3	3	0.48
Other	21	3.00	315	336	4	0.64
Total	701	100.00	626	1,327	628	100.00

TABLE 2. Author Affiliations of Programmed, Volunteered Papers

	No. of	
Department	Papers	% Total
Physiology	185	22.6
Physiology/Biophysics	39	4.8
Pharmacology	292	35.7
Toxicology/Pharmacy	53	6.5
Medicine	58	7.1
Biology	23	2.8
Anesthesiology	18	2.2
Pediatrics	18	2.2
Surgery	16	2.0
Pathology	15	1.8
Biochemistry	11	1.3
Sub-Total	728	89.0
Other (45)	90	11.0
Total	818	100.0

### **APS/ASPET Meeting Statistics** October 9 - 13, 1988

### Montreal. Canada

	Member Category	
2.6	APS member	448
4.8	APSET member	405
5.7	Guest society member	74
6.5	Both APS & ASPET	21
7.1	Total member registration	948
2.8	Nonmember registration	675
2.2	Student registration	443
2.2	Retired registration	13
2.0		
1.8	Total scientific	2,079
1.3	Guest registration	119
<b>9.0</b>	Exhibitor registration	116
1.0	Press registration	12
0.0	Total	2,326

# **Computerized Editing**

The American Journal of Physiology and Journal of Applied Physiology are now encouraging the submission of disks of accepted manuscripts for computerized editing. The following criteria must be met: 5<sup>1</sup>/<sub>4</sub>-inch, lowdensity disks preferably using WordPerfect (or other DOS-formatted software) done on an IBM-PC or compatible. Once accepted, please forward your disk containing the entire manuscript (title page, text, references, figure legends) with the following information: computer; software package and version; name of file; manuscript title, author(s), and reference number.

For further information, contact Gina Hardiman at APS (301/530-7185).

## **Future Meetings**

1989 APS Fall Meeting

**1990** FASEB Annual Meeting APS Fall Meeting

**1991** FASEB Annual Meeting APS Fall Meeting

1992 FASEB Annual Meeting

1993 FASEB Annual Meeting October 15-19, Rochester, MN

April 1-5, Washington, DC October 6-10, Orlando, FL

April 14-18, Atlanta, GA September 29-October 3, San Antonio, TX

April 5-9, Anaheim, CA

March 28-April 1, New Orleans, LA

# Senior Physiologists News

#### Letters to Roy O. Greep

**Rulon W. Rawson** celebrated his 80th birthday in September and his wife, Jane, writes that he is still as sharp as ever and still has his sense of humor. He has been at the Crossland Care Center since November 1987.

William Hansel reports that he is in good health and is still active in research and teaching. Currently he is in charge of a new graduate course in animal biotechnology and is involved in active research programs on corpus luteum function and early pregnancy recognition factors. His recent travels have taken him to Israel, China, Ireland, Seattle, Lexington and Louisville, KY, and to the US Department of Agriculture Animal Research Center in Nebraska.

Jane Sands Johnson, who turned 95 in November, writes from Cooperstown how pleased she was to have her daughter Gloria and son-in-law Duncan return home just before Christmas time after three years in Saudi Arabia.

### Letter to Horace Davenport

**Frank D. Mann** responded to my greeting on his 70th birthday by reminding me that long ago I had encouraged him by recognizing the value of his first piece of experimental work.\* He said, "This work was possible only because of my father's (Frank C. Mann, President of APS 1935-37) great skill in physiological experimentation. I would really like to write about him and his remarkable laboratory where he solved the problems of large scale experimentation on dogs."

\*Mann, F. D., J. H. Grindlay, and F. C. Mann. The withdrawal of chloride from the blood by the gastric glands. *Am. J. Dig. Dis.* 8: 451–457, 1941.

### Letters to Steven M. Horvath

Juan C. J. Penhos writes that he has returned to Miami from Argentina where he spends three months each year teaching at the University of Buenos Aires and now is actively involved in research at the University of Miami. Reflecting upon his career he said, "One of the most rewarding things has been the warm friendship enjoyed from the people I knew during my research activity in Argentina, U.S.A., Europe, and Israel. They fill my heart and my mind with wonderful memories and are my most valued possession."

**R. E. (Bob) Johnson** writes that both he and his wife are "in reasonable shape, considering our near approach to 80. We keep active in the country (six miles from Montpelier, VT). She writes every day on her latest novel and I work on the history of physiology." He also has been appointed a visiting professor in the Department of Physiology and Biophysics and is a member of the metabolic unit in the Department of Medicine.

**Robert C. Darling** and his wife Esther have moves to a retirement facility in Wilmington, DE, where their son Tom lives. "In early 1988," he writes, "Esther developed a reaction to arthritis medication . . . and the experience forced us to recognize that we were foolish to continue to live in a bigger house than we needed and 150 miles from our nearest in August."

**David P. Gordon** writes that since his retirement from the Livermore (CA) VA Hospital in 1982 he has continued his research on the renin system and its role in hypertension. He cites his research efforts "to the generosity of my friends here in California and of colleagues in the Department of Physiology at the University of Florida . . . where I have had for most of the time enough laboratory space and equipment and supplies to continue my experiments."



# **Membership Statistics**

Total Membership		6,757		
Distribution by Employment (6,39	0 Respon	dents)		
	No.	%		
Medical schools	4,102	64		
Physiology departments	2,048	32		
Other preclinical departments	514	8		
Clinical	1,472	23		
Administration	68	1		
Hospitals and clinics	284	4		
Veterinary schools	143	2		
Dental schools	49	1		
Public health and graduate	119	2		
schools				
Undergraduate schools	773	12		
Commercial companies	187	3		
Government	411	6		
Institutes and foundations	203	3		
Private practice	53	1		
Other, emeritus or inactive	66	1		
Distribution by Racial Background and Heritage (Optional personal data)				
Tota	l respond	ents		
American Indian or Alaskan	10			
A ' D. 'C'. T.L. J	240			

American Indian or Alaskan	10
Asian or Pacific Islander	340
Black	41
White	4,828
Hispanic	95

US States With More Than 100 Members (50 States plus Puerto Rico and Virgin Islands)

California	700
New York	627
Texas	389
Maryland	346
Pennsylvania	338
Massachusetts	330
Illinois	314
Ohio	241
Florida	189
Michigan	188
North Carolina	187
New Jersev	177
Missouri	147
Virginia	134
Connecticut	124
Wisconsin	117
Minnesota	115
Tennessee	111
Indiana	101

Distribution by Sex

(Optional personal data)

respondents
717
5,460

#### **APS** American Membership

US	6,224
Canada	293
Argentina	44
Mexico	11
Brazil	10
Peru	7
Chile	6
Venezuela	6
Panama	6
Jamaica	4

Canadian	Provinces	with 5	5 or	More	Members	

British Columbia 26 Manitoba 22	
Nova Scotia 12   Saskatechewan 9   Other provinces represented 9   New Brunswick 9   Newfoundland 9   Prince Edward Island 9	
APS Membership Outside the Americas (Countries with 5 or more members)	
Japan46Federal Republic of Germany39United Kingdom38Switzerland25Italy18Australia15France15Israel14Netherlands14Sweden11Belgium9Denmark8Spain and Canary Islands8Norway7Austria6Taiwan5	

Distribution by Earned Degree (6,292 Responden (Includes 856 individuals with multiple doctora degrees)

DI D	No.
Ph.D	4,378
M.D.	2,452
D.V.M.	152
D.D.S. and other	152

Principle Type of Work (6,443 Respondents)

	%
Research	71
Teaching	14
Administration	8
Clinical	7
Other	2
Statistics represent member	rship as of February 1989

#### Distribution by Age 1...

	(Optional personal data)	
	Г	otal respondents
	70+	632
	60-69	1,160
	50-59	1,589
	40-49	1.979
	30-39	1.052
	20-29	100
	Distribution by Primary Specia Respondents)	lty (6,314
		%
	Cardiovascular	22
	Neurophysiology	12
	Respiration	11
	Endocrine	8
	Gastrointestinal, food, and	6
	nutrition	·
	Renal	5
	Muscle and exercise	5
	Electrolyte and water balance	5
	Cellular and tissue	4
	Environmental	3
	Comparative	3
	Blood	2
	Energy metabolism and	2
	temperature regulation	-
	Pharmacology	2
	Penroduction	2
	All other categories (none 1%	() <b>6</b>
		) 0
	Other countries represented	
ts)	Czechoslovakia	
ate	Finland	
	Greece	
	Hong Kong	
	Hungary	
	Iceland	
	India	
	Iraq	
	Kuwait	
	New Zealand	
	Nigeria	
	Peoples Republic of China	
	Philippines	
	Poland	
	Portugal	
	Saudi Arabia	
	South Africa	
	South Karaa	
39	Theiland	
	0.22K	

# **Eleventh Annual Meeting IUPS** Commission on Gravitational Physiology September 24–27, 1989—Lyon, France

Yugoslavia

The Eleventh Annual Meeting of the Commission on Gravitational Physiology of the International Union of Physiological Sciences will be held in Lyon, France, September 24-27, 1989. Symposia, voluntary papers, and poster sessions dealing with the effects of physiological systems of humans, animals, and plants of changes in magnitude or direction of the force environment will be scheduled. Information and Call for Papers may be obtained from Orr E. Reynolds, Ph.D., Commission Business Officer, American Physiological Society, 9650 Rockville Pike, Bethesda, MD 20814, USA.

The Supplement on Gravitational Physiology to the February issue of The Physiologist (Volume 32, Number 1) is available to APS members on request.

# Association of Chairman of Departments of Physiology **Annual Questionnaire Results**

Allen W. Cowley, Jr. and Jane Brennan

Department of Physiology, Medical College of Wisconsin, Milwaukee, Wisconsin

Physiology departments chairpersons were asked to fill out a questionnaire concerning various aspects of departmental operation. This past year 153 departments were mailed the survey, with 105 (68.6%) responding. The majority of the respondents were from the United States, with a few from Canada and one from Puerto Rico.

All figures relating to salaries, stipends, and budgets are in whole American dollars. Those dollar values that were reported as Canadian dollars were converted as follows: \$1.00 Canadian = \$0.8455 American. Minimum, maximum, and mean salaries have been determined for chairmen, professors, associate professors, assistant professors, and instructors along with percent change from last year's average. We have also calculated the same for women professors, associate professors, assistant professors, and instructors. Please note that salary figures were given for 156 of the 207 (75.4%) women faculty reported. Average salaries have been determined with respect to the number of years a faculty member has been at his/her current position. In addition, we have also included minimum, maximum, and average salaries by region (Northeast, Midwest, South, West, Canada, and Puerto Rico).

As was done in the past, the amount of extramural research funds has been compared with research space and number of faculty. Departments were ranked according to research space and assigned a "space rank" with 1 being the department with the greatest amount of space. The top, middle, and bottom 10 departments according to funded outside research grants are listed along with total space, grant income, and space per faculty.

Information regarding graduate programs (stipend, sources of support, areas of study/research) has also been included.

One hundred fifty-three surveys were sent out to Chairmen of Departments of Physiology. These results are from 105 completed surveys received by January 31, 1989. Surveys were received from universities in the United States, Canada, and Puerto Rico. For some of the analysis, surveys were divided into three categories: 1) those from public medical schools (those with M.D. programs), 2) those from private medical schools (also with M.D. programs), and 3) those from nonmedical schools (including dental, osteopathic, podiatric, and veterinary schools). Unless otherwise stated, all numbers represent totals from all surveys and numbers in parentheses represent the average number per department.

#### Type of Institution

Physiology department primarily in a medical (M.D.) (92) or nonmedical (13) school. If nonmedical, specify type of school: dental (1), podiatric (1), osteopathic (4), veterinary (4), other (3).

Primary affiliation: public (68) or private (37).

Numbers of Faculty With Academic Appointments (Regular or Joint) in Your Department

Figures shown are for the total number of faculty. Numbers in parentheses are average number of faculty per department. Although the sum of each row should add up to the number in column 5 (total), this is not always the case as some surveys were not filled out completely.

		sų	М	=	TOȚAL =	= SŲ	М
	۲ I	Degree(s	) Held		ł	•	
		ND			Number		<b>N</b> .
	Ph.D.	M.D.			of		Not
	only	only	Both	Other	Faculty	Tenured	Tenured
Entire salary paid throug	h your d	epartme	nt:				
Full time	1,212	88	57	42	1,398	929	440
	(11.54)				(13.31)	(9.48)	(4.89)
Part time	36	6	10	8	60	20	38
Part of salary paid throug	gh your o	departme	ent asso	ciated v	vith:		
Other basic sci. dept.	34	2	3	1	40	28	12
A clinical dept.	34	20	5	1	60	32	20
No salary paid through y	our depa	rtment a	associat	ed with			
Other basic sci. dept.	136	6	3	6	151	76	54
A clinical dept.	149	168	20	7	344	136	113
Other (emeritus, etc.)	187	45	18	9	259	74	96

Number of full-time faculty in each discipline: (each faculty should be listed only once)

Cardiovascular	286	Muscle/Exercise	64
Cell/Tissue	144	Neural	247
Comparative	11	Renal	91
Endocrine	143	Reproduction	63
Environmental	20	Respiration	92
Gastrointestinal	68	Special Senses	31
General	57	Transport	97
Molecular Biology	44	Other	33

Other: Biomathematics, Blood, Integrative/Pathophysiology, Liver, Metabolism, Neurobiology, and Pharmacology.

#### Unfilled Faculty Positions

Number of unfilled	positions in	n each rank in your depart	tment:
Professor	12	Associate Professor	26
Assistant Profess	sor 83	Instructor	7

Number of unfilled faculty positions due to: Creation of new FTEs 37 Failure to promote/tenure 10 Death 8 Retirement 20 Resignation 45 Other 6

Estimated number of junior positions expected to become vacant in the next 5 years due to retirement, new FTEs, etc.: yr 1: 47 yr 2: 59 yr 4: 30 yr 3: 41 yr 5: 43

Current Graduate Students and Postdoctoral Fellows

Number of graduate students enrolled in all departments'		
Ph.D. programs		1,299
Number of Foreign graduate students enrolled in all department	s'	
Ph.D. programs 37	1	(28.6%)
Sources of support for foreign graduate students		
Institutional 197		
Research Grants 123		

monutional	1 / 1
Research Grants	123
Private Foundations	16
Other	35

N

N

Number of postodoctoral fellows currently in all departments	764
Sumber of foreign postdoctoral fellows currently	
in all departments	338 (44.2%)

# **ACDP STATISTICS**

Sources of support for for	reign fellows					Predoctoral	Postdoctoral	
Institutional	25					(90 Departments)	(78 Departments)	
Research Grants	235			Average starting stinend	min	\$ 5 250	\$15,000	
Private Foundations	33			nor year for trainage	mm.	\$ 3,230	\$13,000	
Other	45			per yaer for trainees	mean	\$23,196 \$ 9,389	\$27,624 \$18,741	
Number of vacant postdoctoral positions Training Support			92	NIH level as of	7/1/88	\$ 6,552	\$15,996	
Training Support				Amount of tuition paid by	у	64%-student pays no tuition		
Training Support				predoctoral trainees (%	of	22%—stu	dent pays all tuition	
Number of departments w	ith/without training			departments responding	g)	14%—stuc	lent pays some tuition	
grants that support pred	octoral trainees	YES (32)	NO (66)	Number of predoctoral ar	nd postdo	ctoral trainees suppor	rted by:	
Number of departments w	/itn/without training	VEC (21)		Training grants		139	96	
grants that support post	doctoral trainees	YES (31)	NU (69)	Individually federally	funded			
				awards		36	75	
				Research grants		330	350	
				State funds		282	16	
				Private foundations		28	82	

#### TABLE 1. Faculty Salaries for Fiscal Year 1988-1989

		% Change			
		From 198/-1988			No. of
	Mean	Survey	Minimum	Maximum	Faculty
Chairmen					
All schools	\$90,748	5.0	\$36,000	\$138,150	95
Medical public	93,277	4.5	44,576	138,150	57
Medical private	94,099	9.3	36,000	130,992	25
Nonmedical	70,377	1.1	40,538	90,000	13
Professors				,	
All schools	68,145	4.8	23,000	152,900	546
Medical public	67,721	3.3	26,808	152,900	370
Medical private	71,578	7.9	25,000	137,000	125
Nonmedical	62,804	9.0	23,000	101.015	51
Women	68,528	7.0	46,710	110,700	(41)
Associate Professors			,	,	. ,
All schools	49,817	5.6	26,682	81,000	398
Medical public	49,665	3.4	32,378	81,000	241
Medical private	50,786	9.4	26,682	73,500	109
Nonmedical	48,375	10.0	30,000	67,000	48
Women	49,124	7.0	32,378	73,500	(54)
Assistant Professors				,	
All schools	38,948	5.1	17,205	60,000	292
Medical public	38,841	4.7	17,225	60,000	179
Medical private	39,373	6.6	17,205	54,500	90
Nonmedical	38,120	2.8	25,113	51,000	23
Women	38,005	7.7	17,205	54,500	(49)
Instructors			,	,	( - )
All schools	26,898	2.3	18,000	40,000	51
Medical public	27,280	2.4	20,920	33,891	32
Medical private	26,254	0.6	18,000	40,000	19
Nonmedical			-,	,	0
Women	25,692	14.1	20,800	33,413	(12)

### TABLE 2. Average Salary by Number of Years at Position

	Chairmen		Professors			Ass	Associate Professors			Assistant Professors			Instructors		
Years	Salary	No. of Faculty	Years	Salary	No. of Faculty	Years	Salary	No. of Faculty	Years	Salary	No. of Faculty	Years	Salary	No. of Faculty	
0-5	\$87,485	37	0-5	\$62,666	157	0-5	\$48,972	211	0-5	\$38,332	246	0-5	\$27.067	47	
6-10	86,572	24	6-10	65,684	113	6-10	50.494	102	6-10	43.277	30	6+	24,904	4	
11-15	90,276	11	11-15	69,458	123	11-15	51,446	55	11-15	40.734	6			•	
16-20	95,756	12	16-20	73,307	86	16-20	49,449	22	16-20	39.020	7				
21-25	90,209	5	21-25	76,746	50	21+	51.688	7	21-25	42 431	3				
26+	111,038	4	26+	71,204	11	,				,	2				

#### TABLE 3. Starting Salaries

	Professor	Associate Professor	Assistant Professor	Instructor
All schools	\$55,350	\$43,659	\$34,821	\$25,354
Medical public	54,907	43,585	34,760	25,922
Medical private	58,188	44,954	35,700	24,905
Nonmedical	50,777	40,982	32,867	23,850

#### TABLE 4. Salaries by Region

	Minimum	Maximum	Mean	No.		
Chairmen	<u></u>				<u></u>	
Northeast	\$53,000	\$130,000	\$96,370	20		
Midwest	50,300	130,992	89,797	24		
South	40,538	129,000	90,485	33	Northeast Region:	MENHVINY
West	52,968	138,150	90,718	13		MA RICT NJ
Canada and PR	36,000	122,060	74,647	5		PA MD DE
Professors						DC
Northeast	30,000	137,000	73,165	121	Midwest Region:	MI OH IN IL WI
Midwest	43,173	100,000	64,314	137		NH IA MO
South	36,543	99,903	67,865	148		KS NE ND
West	23,000	152,900	71,180	108		SD
Canada and PR	30,000	86,185	56,611	32	South Region:	VA WV KY TN
Associate Professors						NC SC GA FL
Northeast	26,682	71,686	52,152	93		AL MS AR
Midwest	31,000	65,000	48,378	91		LA OK TX
South	33,335	73,500	49,187	147	West Region:	AK HI MT WY
West	37,735	81,000	50,505	45		CO NM AZ
Canada and PR	32,378	68,767	48,693	22		MT ID NV
Assistant Professor						WA OR CA
Northeast	17,205	50,213	38,576	67		UT
Midwest	20,683	55,125	39,265	82		
South	20,500	54,500	38,845	93		
West	17,225	60,000	40,478	33		
Canada and PR	24,000	46,805	36,478	17		
Instructors	,	,	,			
Northeast	20,920	38,836	26,427	17		
Midwest	25,942	33,413	30,826	9		
South	20,088	40,000	25,830	19		
West	23,058	23,058	23,058	2		
Canada and PR	18,000	32,214	27,047	4		

#### TABLE 5. Departmental Ranking According to Outside Research Grant

Ton Ten				Space, Lacardy	Space Rank	No. of Faculty
· 1	\$6,205,079	\$248,203	23,427	937	9	25
2	6,076,741	243,070	26,000	1,040	8	25
3	4,873,000	286,647	42,900	2,524	1	17
4	3,605,463	156,759	20,000	870	15	23
5	3,306,173	165,309	22,702	1,135	11	20
6	3,212,922	133,872	13,101	546	38	24
7	3,163,439	166,497	21,211	1,116	12	19
8	3,152,189	126,088	36,000	1,440	4	25
9	3,138,000	209,200	14,000	933	32	15
10	3,117,412	135,540	19,083	830	18	23
avg	\$3,985,041	187,118	23,842	1,137	15	21.6
Middle Ten						
47	\$1,352,541	\$104,042	7.265	559	73	13
48	1,272,772	60,608	9,928	473	58	21
49	1,195,125	74,695	10,000	625	56	16
50	1,150,000	127,778	9,000	1,000	61	9
51	1,143,597	81,686	7,500	536	70	14
52	1,076,924	82,840	5,880	452	82	13
53	1,066,943	82,073	10,162	782	53	13
54	1,031,371	147,339	12.000	1.714	44	7
55	1,025,834	93,258	7.200	655	74	11
56	1,004,391	77,261	6,831	525	76	13
avg	\$1,131,949	93,158	8,577	732	65	13
Bottom Ten						
95	\$ 105,700	\$ 21,140	3,240	648	94	5
96	75,000	15,000	2,543	509	96	5
97	66,754	33,377	5,300	2,650	84	2
98	50,000	16,667	0	0	100	3
99	35,000	5,833	1,755	293	97	6
100	16,000	4,000	1,642	411	98	4
101	0	0	27,622	1,625	105	17
102	0	0	6,000	1,200	81	5
103	Ű	0	4,461	637	88	7
104	U \$ 24 945	U \$ 0.402	//0	80	99	9

# **ACDP STATISTICS**

Institutional awards Medical Scientist Training	231	21
Program	27 80	0
Not Specified	146	47 77

Other sources of support for trainees: US Army, Minority Program, University Graduate School Stipends, Department Funds, VA, Endowments, Other University Funds, Minority Biomedical Research Support Grants, American Heart Association, UK Department of Surgery, NMFS (NOAA), NORAD, World Health Organization, National Science Council (Taiwan), Self-Supporting, Fogerty International Fellowships, Electron Microscope Fund, Canadian Fellowships, and several foreign governments including Jordan, Swedish, Argentina, Germany, Indonesia, Taiwan, and Saudi Arabia.

Number of Traine	es Who Have Fini	shed Doctoral or	Postdoctoral W	/ork
During the Year	Ending June 30,	1988		

	Predoctoral	Postdoctoral
Total number finishing	157	173
Females	62	46
Blacks	9	3
Other minorities	11	28
Research area of those finishing		
Aging	0	1
Cardiovascular	39	31
Cell/Tissue	11	19
Comparative	0	2
Endocrine	20	18
Environmental	1	1
Gastrointestinal	5	16
General	3	1
Molecular Biology	2	4
Muscle/Exercise	11	5
Neural	22	32
Renal	11	11
Reproduction	16	9
Respiration	8	11
Special Senses	4	2
Transport	4	6
Other	0	4
Number of trainees needing placemen	t 3	6

#### TABLE 6. Pre- and Postdoctoral Trainees

#### Departmental Budget for Fiscal Year 1987–1988 (Salaries and Operation)

Mean	Minimum	Maximum
995,288	35,000	3,151,966
1,351,688	0	5,977,741
65,886	0	551,260
74,133	0	818,730
2,486,995	245,000	9,454,223
	Mean 995,288 1,351,688 65,886 74,133 2,486,995	Mean     Minimum       995,288     35,000       1,351,688     0       65,886     0       74,133     0       2,486,995     245,000

Other sources of support: Graduate School Research Grants, Biomedical Research Support Grants (BRSG), Foundations, Industry, Private Contribution, University Research Support, Affiliated Institutions, Fellowships, Endowed Resources, Start-up Funds, Earned Income, Clinical Revenues, State Funds, Research and Development Funds, Computer Fund, Reserve Funds, Small Instrumentation Grant, Dental School, Indirect Costs, Library/Shop, University Physicians Practice Group Profits, Special Physiology Research Fund, Industrial Contracts, Income Fund Reimbursement, Research Incentive Funds, In-house Grants, Equipment Funds, Outside Teaching and Activities, LMN Bach Award, Satellite Institution Center, Royalties, Enrichment Programs.

#### Space Assigned to Your Department (Excluding Lecture Rooms)

	Mean	Minimum	Maximum
Research	12,511	0	42,900
Teaching	1,927	0	20,000
Office	3,124	0	10,899
Storage	489	0	4,000
Other	1,674	0	12,500
Fotal	19,650	1,600	66,850

Of the 103 surveys listing space, 49 had departmental teaching labs, 36 had no teaching lab, and 18 shared multidisciplinary teaching labs.

#### Applicants to Graduate Program

Number of applicants to 86 departments,<br/>Ph.D. programs this year1,909 (22.2)Number of these applicants accepted to<br/>Ph.D. programs493 (5.7)Number of those accepted actually enrolled<br/>in Ph.D. programs315 (3.7)

	Year								
	1988	1987	1986	1985	1984	1983	1982	1981	1980
Ph.D.s granted	157	143	98	113	135	153	137	165	190
Degrees to minorities									
Female	62	38	32	40	42	32	40	41	33
Black	9	3	2	1	2	2	4	3	7
Others	11	15	1	7	7	8	9	12	18
Area of study									
Cardiovascular	39	32	29	19	47	52	25	33	37
Cell/Tissue	11	13	15	14	34	32	26	6	17
Comparative	0	2	3	1	2	5	2	1	18
Endocrine	20	17	11	8	50	49	41	38	33
Environmental	1	2	1	0	8	4	3	1	1
Gastrointestinal	5	8	6	0	6	5	6	7	3
General	3	2	0	2	3	29	4	17	11
Molecular Biology	2								
Muscle/Exercise	11	6	5	9	6	9	6	7	4
Neural	22	29	19	22	32	31	30	28	45
Renal	11	11	3	6	9	8	12	11	8
Reproduction	16	8							
Respiratory	8	6	6	9	12	8	7	10	7
Special Senses	4								
Transport	4								
Ph.D. students in program	1,299	1,225	1,002	1,040	1,329	991	1.043	1.036	1.060
Foreign	371 (28.5)	,	ŕ	,	,		,	,	,
Postdocs in program	764	637	497	524	534	534	475	493	472
Foreign	388 (44.2)								
Vacant postdoc positions	92	84	59	59	64	52	51	53	75
Postdocs finishing work	173	146	118	111	130	132	147	131	160
Faculty positions available	128	110	97	78	99	92	84	87	92
Stipends									
Ph.D. students	\$ 9,389	7,847	7,530	7,244	6,600	5,845	5,609		
Postdocs (1st yr)	\$18,741	19,783	17,120	16,890	15,634	14,689	14,097		

### Approximate Average GRE Score of Those Accepted

Because of the ambiguity to this question, averages are given for each method of reporting GRE scores.

48 surveys gave all three scores—avg = V, 512; Q, 649; A, 580

- 5 surveys gave two scores—avg = V, 481; Q, 652
- 1 survey gave one percentage—avg = 67%
- 7 surveys gave three percentages—avg = V, 65%; Q, 76%; A, 70%
- 2 surveys state GRE scores are not required

#### TABLE 7. Training Support

Department Faculty-1,450	Total	Faculty	(%	of total)	
Number of faculty who are					

and are included in the are	
Female	207 (14.27%)
Black	25 (1.72%)
Other minority	104 (7.17%)

	Total No. of Trainees Supported (% total/yr)							
	1988	1987	1986	1985	1984	1983		
Postdoctoral								
Training grants	139 (11)	158 (13)	108 (12)	113 (12)	177 (16)	189 (20)		
Individual federally funded awards	36 (3)	39 (3)	36 (4)	32 (3)	37 (4)	19 (2)		
Research grants	330 (25)	357 (30)	239 (26)	229 (24)	248 (22)	223 (23)		
State funds	282 (22)	306 (26)	283 (31)	285 (30)	281 (25)	253 (27)		
Private foundations	28 (2)	48 (4)	34 (4)	37 (4)	34 (3)	32 (3)		
Institute awards	231 (18)	175 (15)	134 (14)	184 (19)	221 (20)	149 (16		
Medical scientist training programs	27 (2)	18 (2)	19 (19)	23 (2)	46 (4)	22 (2)		
Other	80 (6)	81 (7)	67 (7)	49 (5)	75 (7)	46 (5)		
Postdoctoral								
Training grants	96 (12)	113 (18)	88 (18)	92 (18)	89 (22)	100 (20		
Individual federally funded awards	75 (10)	59 (10)	94 (19)	79 (15)	88 (22)	89 (18		
Research grants	350 (46)	334 (55)	206 (41)	232 (45)	130 (32)	197 (40		
State funds	16 (2)	18 (3)	21 (4)	27 (5)	14 (3)	17 (4)		
Private foundations	82 (11)	43 (7)	51 (10)	39 (8)	48 (12)	56 (11		
Institute awards	21 (3)	15 (2)	21 (4)	32 (6)	15 (4)	18 (4)		
Medical scientist training programs	0 (0)	1 ( 1)	1 (1)	4 (1)	2 (1)	5 (1)		
Other	47 (6)	28 (5)	15 (3)	15 (3)	18 (4)	12 (2)		





Chairmen



THE PHYSIOLOGIST



# What Is the Most Sought-After Commodity in the Nation's Capital? It's Information

Information clearly is Washington's most precious commodity and it involves thousands of people: officeholders and their staffs, lobbyists, association executives, consultants, public relations counselors, foreign agents, and diplomats.

These people who collect and disseminate information are called "Washington insiders" and because they know the value of information in the nation's capital, they spend long hours gathering and sorting out data on a variety of issues that someday may be useful in a Congressional hearing or in the debate on a particular bill or a proposed regulation.

Yet, despite this army of data gatherers, more often than not a vital piece to the picture is found to be missing. That piece is the one that tells the officeholder how the enactment of a bill or the promulgation of a regulation will effect the health, the wealth, and/or the livelihood of folks living outside of the Capital Beltway.

What frequently is the most important information for lawmakers and regulators is grassroots information. And this is why a few weeks ago you received the APS booklet "How To Be Heard On The Hill" and a questionnaire asking you to list your areas of interest and contacts, if any, in congressional and executive branch offices.

As stated in the booklet, "There is no voice more convincing than a credible, concerned voter from the member's home district." This has long been a truth known well by those who deal regularly with the Congress or with the various agencies within the offices of the executive branch. Moreover, information from the home district is a critical factor in blunting the attacks of those activists groups who continually intensify their efforts to impose significant change in current laws and a political realignment of society's values.

Both the booklet and the questionnaire are the efforts of the Committee on Government Relations Initiative Programs (GRIP), which was established by the Society in March 1988, and represent 2 of the 17 initiatives the Committee proposed and the Council approved in May 1988. (GRIP initiatives were published in June 1988 issue of *The Physiologist*, page 51).

The purpose of the booklet is to provide a map that describes the avenues available for telling Congress how a proposed law or regulation would affect an APS member's work, institution, colleagues, students, and the community. The booklet also tells how to get copies of proposed legislation.

The purpose of the questionnaire is for the Society to learn the areas of legislative interest and concern to APS members and to identify those members who have established federal contacts and are willing to use them, should such a need ever arise. Data from the questionnaire are to be placed in the computer that will permit the Society to cross-match areas of interest and those with appropriate federal contacts.

The goals in this particular twin-initiative by the GRIP Committee are the strengthening of APS' role on Capitol Hill and in the executive branch by increasing the membership's involvement and the broadening of the Society's repository of information for use at some future hearing or debate on those issues of concern to the members.

William M. Samuels

# Research Accountability Act, Resolutions Among Animal Bills Filed Early in 101st Congress

In the opening weeks of the 101st Congress legislative proposals concerned with animals were introduced by Congressmen from New Jersey, Wisconsin, and Indiana.

Rep. Robert G. Torricelli (D-NJ) resubmitted his Research Accountability Act (HR 560), which is a bill to establish a national center for the purpose of reviewing all grants approved for federal funding that involve the use of live animal models. The center would have the authority to veto any approved grant should the center's staff believe the work to be duplicative of previous or ongoing projects.

Torricelli first introduced this bill in the 99th Congress and again in the 100th Congress. Each time the bill died in committee without a hearing.

This time Torricelli has reduced the scope of the original bills, which would have required the National Library of Medicine to acquire in full text form all biomedical research information, both domestic and foreign. The new proposal, however, limits the acquisition of such information to only federal agencies and the change reduces the implementation costs to \$40 million, plus the costs of providing full text information on biomedical research. The Congressional Budget Office's cost estimates for the original bills had ranged from \$2 to \$6 billion.

The Society has been on record since the 99th Congress opposing the Research Accountability Act. Among the Society's reasons are that proposed center's function is duplication of the peer-review system and a second federal review is not deemed to be necessary, and the implementation costs and fiscal support for the center would come from federal funds appropriated for research.

Rep. Toby Roth (R-WI) introduced HR 425, a proposal to amend the Animal Welfare Act. He had submitted in the last Congress an identical bill, which died in committee. The bill, if enacted, would permit the Secretary of Agriculture to request temporary restraining orders or injunctions against animal dealers, carriers, exhibitors, or handlers who knowingly deal with stolen animals or place in serious danger the health of animals covered by the act.

The Secretary does not have this authority and the current procedures for dealing with such violations require approximately two years. The Society does not oppose this bill, which was introduced at the request of the Secretary of Agriculture.

Andrew Jacobs (D-IN) has introduced three resolutions:

1) HCR 4, a resolution condemning the use of rapid decompression as a method of animal euthanasia;

2) HCR 5, a resolution that federally funded school lunchers should provide optional meatless meals; and

3) HCR 6, a resolution that any federal agency utilizing the Draize rabbit eye irritancy test should develop and validate testing procedures that do not require the use of animal test subjects.

The Draize resolution was first submitted by Jacobs in the 98th Congress and has died in committee in each of the Congressional terms since that time. The resolution on euthanasia was first submitted by Jacobs in the last Congress where it also died in committee. This is the first submission of the resolution calling for the option of meatless school lunches.

### **BOOK REVIEW**

Animal Liberators—Research & Mortality Susan Sperling

University of California Press, Berkeley, CA, 1988, 247 pp., \$19.95

Animal Liberators is a book that puts the animals rights movement in a historical perspective, dating back to the antivivisectionists in Victorian England during the nine-teenth Century and blending the animal activists who also seek a political realignment of society's concern for all animals.

By this title the reader knows at the outset that the book is weighted on the side of those who support the animal movement, but that in itself is not sufficient reason to avoid its reading. Among some of the reasons for reading it, aside from its significant historical perspective, is that the book provides a broad brush look at today's animal activists and their beliefs and goals—which are rational to some, irrational to others—and their standing in society, which is largely college educated, white, upper middle class, and female—not the little old ladies in tennis shoes stereotype.

By and large, these general characteristics are the same characteristics found among those who were active in the antivivisectionist movement in England. Moreover, the issues of that day also are the issues of this day along with much of the same litany: e.g., ". . . vivisection could be eliminated . . . because anatomical and clinical observations would achieve the same results, . . . disease is a result of "disharmony with nature and only be restoring a balance with nature could health be achieved, [and] not through medical intervention of any kind."

For both its historical values and for the glimpses of the activists the author interviewed, the book is worth the time. But what may be of more importance to those who are involved in the battle with animal activists, this is the first book in recent years to popularize the animal movement and undoubtedly will become a tool used to recruit new converts. For that reason alone you should read it.

William M. Samuels



"ACCORDING TO THE AGENDA TODAY WE START NEGOTIATING WITH THE GUINEA PIGS' LAWYERZ." Reprinted with permission by Sidney Harris.

### PEOPLE AND PLACES

G. D. Searle & Company has appointed APS member **Timothy S. Gaginella** as Director of GI Biology/Biochemistry. Dr. Gaginella was formerly in the Department of Internal Medicine at Ohio State University.

**Charles Edwards,** Ph.D., special assistant to the director of Intramural Research, NIDDK, has assumed the position of associate dean for research and graduate studies in the College of Medicine at the University of South Florida.

APS member **Scott Powers**, Ph.D., Ed.D., has moved from Louisiana State University, Baton Rouge, to the University of Florida, Center for Exercise Science.

**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 *three months* (by the 5th of the month) before the desired publication date. Send all information to Martin Frank, Editor, *The Physiologist*, APS, 9650 Rockville Pike, Bethesda, MD 20814.



The new Secretary of the U.S. Department of Health and Human Services is **Louis W. Sullivan**, who has been a member of APS since 1962. He was president of More-

house School of Medicine in Atlanta and prior to that he was professor of medicine at physiology at Boston University School of Medicine.

APS member **Humberto Fernandez-Moran**, M.D., Ph.D., A. N. Pritzker professor of biophysics, has been appointed scientific advisor of the Embassy of Venezuela in Berne, Switzerland.

Hugh E. Huxley, Ph.D., Sc.D., professor of biology at Brandeis University, has been appointed director of the University's Basic Medical Sciences Research Center.

The Council for International Exchange of Scholars has announced that nearly 1,000 scholars, academics, and professionals have received awards under the Fulbright Scholar Program to travel, lecture, consult, and conduct research abroad in 1988–89. **Ralph A. Nelson**, M.D., Ph.D., chairman of medicine at the University of Illinois, Urbana-Champaign, will be a Fulbright scholar in Morocco.

### **BOOKS RECEIVED**

Movements of the Eyes (2nd ed.) R. H. S. Carpenter. London: Pion, 1988, 593 pp., illus., index, \$115.00.

Body and Brain. Dale Purves. Cambridge, MA: Harvard Univ. Press, 1988, 231 pp., illus., index, \$35.00.

Intensive Care: Facing the Critical Choices. Thomas A. Raffin, Joel N. Shurkin, and Wharton Sinkler. New York: Freeman, 1988, 208 pp., illus., index, \$14.95.

Biology of Lung Cancer: Diagnosis and Treatment. Steven T. Rosen, James L. Mulshine, Frank Cuttitta, and Paul G. Abrams (Editors). New York: Dekker, 1988, 384 pp., illus., index, \$99.50.

Advances in Comparative & Environmental Physiology 2. R. Gilles, (Editor-in-Chief). New York: Springer-Verlag, 1988, 252 pp., illus., index, \$84.40.

Interferon and Nonviral Pathogens. Gerald I. Byrne and Jenifer Turco (Editors). New York: Dekker, 1988, 336 pp., illus., index, \$99.75. Progress in Molecular and Subcellular Biology-10. P. Jeanteur, Y. Kuchino, W. E. G. Muller, and P. L. Paine (Editors). New York: Springer-Verlag, 1988, 114 pp., illus., index, \$59.50.

Inositol Lipids and Transmembrane Signalling. The Royal Society. London: The Royal Society, 1988, 436 pp., illus., index, \$72.00.

Principles of Human Anatomy (5th ed.). Gerald J. Tortora. New York: Harper & Row, 1989, 769 pp., illus., index.

Animal Liberators: Research and Morality. Susan Sperling. Berkeley: Univ. of California Press, 1988, 247 pp., illus., index, \$19.95.

Molecular Neurobiology: 1987. Nicolas G. Bazan and David C. U'Prichard (Editors). Clifton, NJ: Humana, 1988, 399 pp., illus, index, \$85.00.

Perspectives in Memory Research. Michael S. Gazzaniga (Editor). Cambridge, MA: MIT Press, 1988, 320 pp., illus., index, \$30.00.

#### **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 copy. Purchase orders will not be accepted unless accompanied by payment. Ads not prepaid will not be printed. Copy must be typed double-spaced and 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 where given on original copy. Copy deadline: copy must reach the APS office before the 15th of the month, 2 months preceding the month of issue (e.g., before February 15 for the April issue). Mail copy to APS, 9650 Rockville Pike, Bethesda, MD 20814.

### POSITIONS AVAILABLE

Faculty Positions in Cell/Systems Physiology. The Department of Physiology of the University of Puerto Rico Medical School has three tenuretrack positions available July 1989. Rank will be commensurate with experience. Minimal requirements include postdoctoral training and the potential to develop an active research program and participate in the teaching of physiology to medical and graduate students. Teaching may be in either English or Spanish. Interested persons should send a curriculum vitae, reprints, statement of research interests, and the names of three references to: Dr. Susan Opava-Stitzer, Chair, Department of Physiology, University of Puerto Rico School of Medicine, GPO Box 5067, San Juan, Puerto Rico 00936. Women and members of minority groups are encouraged to apply.

Temporary appointment for Research Assistant as Project Manager for German D-2 space shuttle mission flying in 1992. Ph.D. or M.S. in life sciences or bioengineering. Two years experience in autonomic cardiovascular research, preferably with human subjects. For complete job description contact Dr. Dwain Eckberg, Cardiovascular Physiology, V.A. Medical Center, 1201 Broad Rock Blvd., Richmond, VA 23249. Women and minorities are encouraged to apply. [EOAAE]

# To the Editor

The attacks (*Physiologist*, October, 1988) on Cheryl Scott's restrained and thoughtful assessment of the "battle" between animal researchers and animal rightists (*Physiologist*, June, 1988) call for a reply.

Richard Malvin objects to Scott's statement that abuse of experimental animals "does exist." Does he really believe that there is no abuse of experimental animals? If so, I would suggest he read *Beyond the Laboratory Door* (Animal Welfare Institute), a selection of excerpts from the scientific literature, and of examples of flagrant violations of the Animal Welfare Act.

Malvin says that Scott's use of quotation marks in referring to a "panel of experts" is "an interesting insight into her thinking." What does *he* think about the expertise of the "panel of experts" that recommended support for Taub and Gennarelli for over a decade?

Aubrey Taylor takes exception to Scott's statement that "many animal activists" (misquoted by Taylor as "antivivisectionists") "are highly educated and better informed than the scientific community." He does not seem to understand that *there are areas other than science* in which many people *are* "highly educated and better informed than the scientific community." Unfortunately, there is no dearth of respected scientists who are uneducated in, and uninformed of humane and ethical considerations.

Taylor says of Scott's claim that she saw an animal being abused and no one was available to be contacted, that "Such a scenario is not to be found in the United States" (because of the guidelines and the Animal Care Committees). Are we to believe that because we have laws against murder, and because we have a police force, murders are not to be found in the United States?

Taylor wants to prepare comments (presumably unfavorable) on Animal Welfare Act regulations on exercise for dogs and on provision for the psychological wellbeing of primates. Is he advocating weakening the very law that he suggests we depend upon to protect experimental animals? He also wants to develop a "model pound release law." Can it be that he feels that we should encourage the existence of a plentiful supply of strays so that they can be used for experimentation? Obviously, if research is made dependent on strays, then for a scientist, any other view becomes a conflict of interest.

Are physiologists above reproach? A scientist should not reject criticism, especially in an area in which he is not an expert. The proper reaction to criticism such as Scott's is to consider it carefully, and to benefit from it.

Marjorie Anchel, Ph.D.

(The writer is Senior Scientist Emeritus, the NY Botanical Garden, and a director of the Scientists Group for Reform of Animal Experimentation)

As a member of the scientific community whose credentials most certainly compare favorably with the "scientists" who defend unlimited animal research, I take strong exception to your editorial of October 18, 1988.

Let us face facts. You claim that safeguards are totally effective in preventing research animal abuse, yet, if it were not for animal activists, many M.D.'s included, institutions, even those as prestigious as the University of Pennsylvania, would never have been exposed. Furthermore, your claim that animal activists put the life of animals over those of humans is nothing but self-serving rhetoric. That Cornell would waste millions of limited research dollars addicting cats to drugs while suitable human models go desperate for help is the ultimate insult to humanity.

Start looking over your shoulders. It is the scientific community that will cause the demise of your activities. Then limited research dollars will be channeled to helping people instead of padding cv's with the suffering of animals.

Ronald Allison, Ph.D.

As a physician concerned with the advancement of medical science and the humane treatment of animals, I am dismayed at the *Physiologist's* one-sided discussion of animal research.

Responsible scientists must admit that there is vast room for improvement in the way we treat and think of the animal subjects of our medical experiments. Progress can be made on many fronts without compromising the integrity of biomedical research. These include:

- Strengthening Institutional Animal Care Committees—The committees should include members of the animal welfard community, and meetings should be open to the public (whose tax dollars fund the experiments).
- Better enforcement of Animal Welfare Act Regulations.
- Elimination of animal tests for cosmetics and household products marketing.
- Replacement of "dog labs" in medical education with computer simulations, models and other suitable alternatives.

Responsible research requires experimental protocols that exhaustively evaluate the availability of alternatives to animal models and which assure the value of the research to human health. The time for treating animals as little more than disposable commodities along the path to grant awards and publications has long passed.

Anthony Gigliobianco, M.D.



Dr. Arthur Guyton is to be complemented and his minority statement given much prominence for his courageous disagreement with the Majority report by the National Academy of Sciences Lab Animal Study. Dr. Guyton, an active and successful cardiovascular scientist, makes some important points that suggest the Committee report is pusillanimous and accommodating rather than realistic in terms of the costs of large animal research, alternative research methods, and layering of bureaucracies.

My hat is off to Dr. Arthur Guyton.

Harry Lipner Professor, Physiology Florida State University

# **APS Sustaining Associate Members**

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## Wellcome Visiting Professorships Available

FASEB invites nominations for the 13th series of Wellcome Visiting Professorships in the Basic Medical Sciences, sponsored by the Burroughs Wellcome Fund. The professorships are offered annually to medical schools, universities, and other scientific research institutions in the United States. Selected US institutions will receive distinguished scientists from within the United States or abroad whose interests relate to physiology, biochemistry/ molecular biology, pharmacology, pathology, nutrition, immunology, and cell biology. Deadline: May 1, 1989. Information: The Wellcome Visiting Professorship Program, Executive Office, FASEB, 9650 Rockville Pike, Bethesda, MD 20814, Phone: (301) 530-7092.

# 3M Life Sciences Award Available

FASEB invites nominations for the 15th annual 3M Life Sciences Award. The award, sponsored by 3M, provides \$25,000 to the awardee. The nominee must have contributed to the welfare of mankind by conducting research in the broad area of the life sciences that has led to a significant increase in scientific knowledge. *Deadline:* October 15, 1989. *Information:* Marge Averi, 3M Life Sciences Award Committee, FASEB, 9650 Rockville Pike, Bethesda, MD 20814. Phone: (301) 530–7092.

# ANNOUNCEMENTS

# Scientific Meetings and Congresses

International Conference on Video Microscopy. University of North Carolina at Chapel Hill, June 4–7, 1989. *Information:* Extension and Continuing Education, CB #3420 Abernetht Hall, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599–3420. Phone: (919) 962–1106.

Fourth Annual Course on Critical Issues in Tumor Microcirculation, Angiogenesis and Metastasis: Biological Significance and Clinical Relevance. Carnegie Mellon University, Pittsburgh, Pennsylvania, June 5-9, 1989. *Information:* R. Hilda Diamond, Associate Director, Biomedical Engineering Program, DH 2313, Carnegie Mellon University, Pittsburgh, PA 15213-3890. Phone: (412) 268-2521.

MIT course on Design and Analysis of Scientific Experiments. Massachusetts Institute of Technology, July 10–15, 1989. *Information:* Director of Summer Session, Room E19-356, MIT, Cambridge, MA 02139.

Tenth International Biophysics Congress organized by the National Research Council Canada, the Biophysical Society of Canada, and the International Union of Pure and Applied Biophysics. Vancouver Trade and Convention Centre at Canada Place, Vancouver, British Columbia, Canada, July 29-August 3, 1990. *Information:* L. Forget, Congress Manager, Tenth International Biophysics Congress, National Research Council Canada, Ottawa, Ontario, Canada K1A 0R6. Phone: (613) 993–9009.

# NIH Conference on Modeling In Biomedical Research

The NIH will hold a conference on Modeling in Biomedical Research: An Assessment of Current and Potential Approaches. Applications to Studies in Cardiovascular/Pulmonary Function and Diabetes. The conference is May 1-3, 1989, in the Masur Auditorium, National Institutes of Health, Bethesda, MD. NIH Sponsors are DRR, DRS, and OMAR. *Information:* Susan Wallace, Prospect Associates. Phone: (301) 468-6555.

# NIH Meeting on Minorities in Biomedical Research

The NIH will hold regional public meetings on "Programs for Support of Minorities in Biomedical Research." The purpose of the meetings is twofold: 1) to provide current information concerning the activities of NIH by describing in broad terms existing programs offered by NIH, and 2) to solicit through public testimony the views of biomedical researchers, university faculty and administrators, students, representatives of professional societies, and other interested parties regarding the nature and scope of programs to attract and support minorities in biomedical research.

The places and dates of the meetings are as follows: Bethesda, Maryland, April 20, 1989; Atlanta, Georgia, early summer 1989; Phoenix, Arizona, late summer 1989; and Anchorage, Alaska, early fall 1989. *Information:* Loretta Beuchert, Research Training Office, Office of Extramural Research, NIH, Shannon Building, Room 250, Bethesda, MD 20892. Phone: (301) 496–9743.