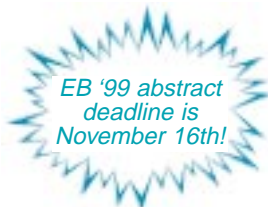




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# The Physiologist

Volume 41 Number 4

August 1998

## The Employment of Recent Doctoral Graduates in Physiology

by Marsha Lakes Matyas and Martin Frank

### Purpose of the Study

The "traditional" career path for most students in biomedical sciences (including physiology) has been to enter into a postdoctoral study period after being awarded the doctoral degree. Students who are enrolled in dual degree programs (e.g., MD/PhD) may need to complete their remaining professional school studies after completing the PhD and might then move into a postdoctoral position or residency. Because of these traditional career paths, the physiology research community has held certain assumptions about what happens to physiology PhD students after receiving the doctorate. Naturally, one assumption was that the large majority of physiology PhD recipients go directly to postdoctoral positions in educational institutions and that very few students move directly into permanent positions. In recent years, however, the perception seems to be growing among the physiology research community that students are having more difficulty finding postdoctoral positions and that moving from a postdoctoral to a permanent position is problematic.

Unfortunately, little data have been available to determine whether our original assumptions were correct and/or the anecdotal data are evidence of a real trend in our field. Has the situation for physiology graduate students changed significantly over time? Do the large majority of doctoral recipients in physiology do postdoctoral studies? How are gradu-

ate students finding their first professional position, whether it be a postdoctoral or a permanent position? Are job searches taking an excessive or increasing amount of time? Are there differences in these issues among male and female graduate students? Among minority and majority graduate students?

A cooperative study organized by the Commission on Professionals in Science and Technology (CPST) offered the APS an opportunity to establish a database for monitoring the flow of students from graduate studies, through postdoctoral positions, and into permanent professional positions. Ultimately, the establishment and maintenance of this data base will allow us to answer many of the questions that students and their mentors have about the employment of PhD recipients in physiology.

The Commission on Professionals in Science and Technology (CPST), with support from the Alfred P. Sloan Foundation and the National Science Foundation, and in cooperation with a number of professional societies, is continuously monitoring the supply and demand situation for recent graduates in science and engineering. CPST is working with more than a dozen professional societies (American Physiological Society, American Chemical Society, American Economic Association, American Geological Institute, American Geophysical Union, American Institute of Physics, American Mathematical Society, American Political Science Association, American Psychological Association, American Society for Biochemistry and Molecular Biology, American Society for Engineering Education, American Society for Microbiology, American

*Adapted from papers presented at the annual meetings of the American Association for the Advancement of Science (Philadelphia, February 1998, Matyas) and the Association of Chairmen of Departments of Physiology (San Juan, Puerto Rico, December 1997, Frank).*

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# EB'99 - A Changed Meeting

For several years, the membership has been hearing about the problems with the Experimental Biology meeting and the ways in which the APS was trying to fix it. Distinguished lectures were added, symposia were shortened, poster sessions no longer compete with oral sessions, and Physiology InFocus sessions were introduced. As an unbiased observer (?), I can safely say that the changes seem to be working. The EB'98 meeting in San Francisco was one of the Society's best meetings, featuring outstanding science, high levels of energy and enthusiasm, and a scientific attendance of approximately 11,000. The Experimental Biology meeting seems to have turned the corner.

While EB '98 was a success, we can not become complacent. For EB '99 in Washington, DC, several additional changes have been made, complimenting the features introduced in previous years. The most important change relates to how the scientific program for EB '99 was developed. The APS Council has empowered the sections and interest groups (referred to as S/IGs), providing them with more autonomy in program development. Proposed symposia will not longer be judged, evaluated and selected by the APS Program Committee from proposals submitted by the S/IGs. For EB '99, the S/IGs were assigned a number of oral program slots and told to put together the best program possible, fulfilling the needs of their constituency. Each S/IG was assigned a number of slots for symposia and for oral slide sessions or "Featured Topics" based on past pro-

gram activity. To fill the slots, each S/IG established their own program committee to solicit and create the sessions that fulfilled the mission of their S/IG. For example, the Cardiovascular Section was assigned five symposia and seven featured topics, the Renal Section was assigned three symposia and four featured topics, and the Hypoxia Interest Group was assigned one symposium and one featured topic.

What are "Featured Topics?" They represent a new format, more tightly focused and comprised primarily of volunteered abstracts. Featured Topic sessions were created because too many slide sessions seem to be created just because the 10 presenters have checked oral in the preference box. Such sessions are a disservice to the presenters and the attendees. "Featured Topics" are directed to issues and topics of importance as defined by the S/IG program committees. The session might start with an introductory talk or end with a summarizing presentation, but the bulk of the session will be comprised of volunteered abstracts. The focused nature of these sessions should strengthen the session and improve information exchange.

The volunteered abstracts included in the Featured Topic sessions will also be presented as posters, just like all the other volunteered abstracts. Through the establishment of complimentary poster sessions, the discussion started at the oral Featured Topic can continue in the poster session. The Featured Topic chair, as well as the invited speaker, will serve as facilitators at the poster session, directing discussion to the critical

issues raised in the oral session.

The APS will also be adding a new lecture to the EB '99 meeting. The Walter C. Randall Lecture in Biomedical Ethics, sponsored by Taylor University, will focus on the ethical issues that impact upon our research. This year's speaker, Frank Young, former Commissioner of the Food and Drug Administration, will focus on the ethical issue surrounding the cloning debate.

In response to requests made by meeting attendees, the EB Program Committee, comprised of representatives of the participating societies, has agreed that authors may submit and present more than one abstract as a first author. This change will go into effect at EB '99. In addition, the **abstract deadline** has moved to **November 16**. Abstracts can be submitted on the forms included in the Call for Papers (which will be mailed in September) or online through the EB '99 Web Site <<http://www.faseb.org/eb99>>. Mark your calendar so you don't miss the new, earlier deadline date.

As the Society builds its program, every effort will be made to mount it on the APS Home Page behind the Experimental Biology button on the Meetings page. Check it out often so you can prepare for the meeting. We want the entire APS membership to consider attending this year's meeting. If you come, I hope to see you on the dance floor at the Annual APS Mixer on Saturday, April 17, 1999.

Get ready for EB '99. It won't be the same without your attendance.

*Martin Frank*

**Don't forget!!**

**Abstracts for EB '99 are due November 16, 1998!**

**Get them in early!**

# Doctorate Employment Survey

(continued from page 153)

Sociological Association, and Association for Computing Machinery) to collect specific annual data on PhD recipients.

Each society will collect key data elements to characterize employment for recent graduates, including information on, for example, respondent demographics, employment status, length of employment search, and job search strategies. Each society may opt to add to the core group of questions to explore issues of particular interest to their field. Core data from all societies are currently being compiled and will be available at the CPST web site (<http://www.aaas.org/CPST/cpst1.htm>). APS' portion of the study includes not only the core data items but additional information of interest to the physiology community, especially focusing on postdoctoral issues. Data from a subset of the survey questions are reported here.

## Methodology

The initial methodology was established by the CPST study. In conjunction with the Association of Chairmen of Departments of Physiology (ACDP), the APS collected the names and addresses of students who had earned their doctoral degrees in physiology between July 1, 1995 and June 30, 1996. Follow-up telephone calls to the departments and to students' faculty advisors helped fill in missing information. Overall, 72% of the physiology departments responded, providing the names of 261 graduates. According to the Survey of Earned Doctorates, the number of PhD degrees awarded in "human/animal physiology" was 262 in 1995 (4) and 275 in 1996 (2). Therefore, we can be reasonably sure that the pool of doctoral degree recipients used in our survey ( $n=261$ ) includes the large majority of students earning a PhD degree in human/animal physiology in the year surveyed.

The initial APS survey was sent to these 261 graduates, with a cover letter indicating that respondents would receive a

\$15 cash incentive for completing and returning the survey. A total of 253 surveys were successfully mailed. Reminder postcards and a second mailing of the survey to nonrespondents helped increase the overall response rate. Surveys were returned by 185 graduates (73%).

## Results

### Demographics

Of the 185 respondents, 40% were women and 60% were men. About a third of the respondents (34%) indicated they were Asian or Pacific Islander, but there were very few American Indian/Alaskan Native (1%) or Black/African American (2%) respondents. About 5% of the respondents indicated that they were Hispanic. Due to the small number of minority doctoral degree recipients, the remaining survey data are not reported here by racial/ethnic group. We hope to be able to analyze data by racial/ethnic group as the data base grows with each annual survey of doctoral recipients. Mean age of the respondents was 33.5 years; this was similar for both male and female respondents.

Over half of the respondents were US citizens (59%). Among non-US citizens,

61% ( $n=34$ ) held permanent resident status and 39% ( $n=22$ ) had temporary visas. Ten percent ( $n=17$ ) of non-US citizens declined to indicate their status.

Respondents, on average, took 5.2 years to complete their doctorate (median=5.2 years; maximum=10.3 years) (Fig. 1). More than three-quarters of respondents (79%) completed their PhD studies in less than six years and only 10% required seven or more years to earn their degree. Women took slightly longer than men to complete their doctoral degree (5.4 years on average versus 5.1 years for men).

### Unemployed Graduates

Survey respondents were asked to indicate whether they had been employed ("working for pay") during the week of October 14, 1996, that is, 3 to 15 months after receipt of their doctoral degree. This date was the *survey target date* and was used throughout each of the 13 societies' surveys to gain a snapshot of what graduates were doing at this time. The use of a survey target date also allowed for comparisons of data from the participating professional societies. The large majority of responding physiology PhD recipients (86%) indicated that they were employed

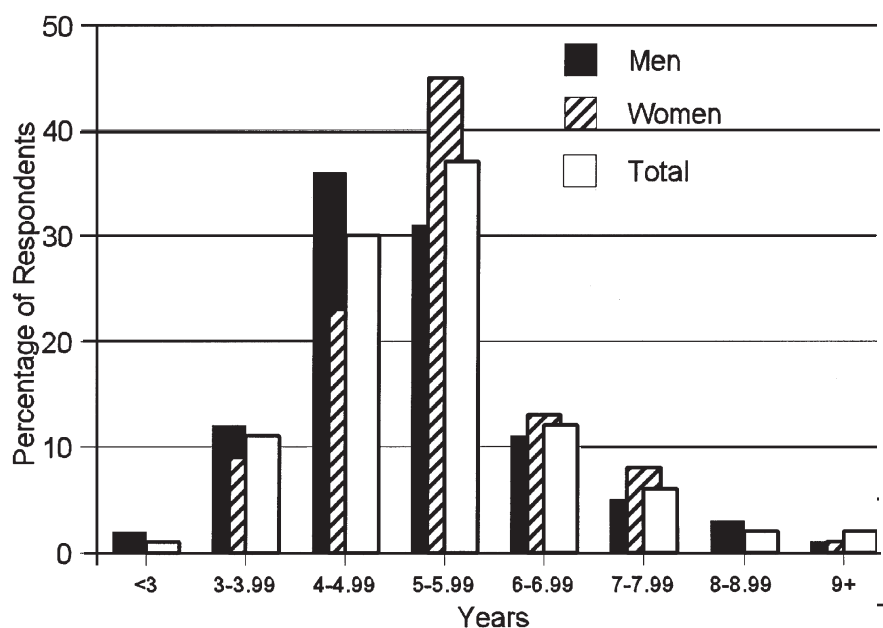


Figure 1. Time to Completion of Doctorate.



# Doctorate Employment Survey

on the survey target date. Only 14% ( $n=26$ ) indicated that they were unemployed. Two respondents declined to indicate their employment status. Results were similar for male and female respondents.

Among the 26 PhD recipients who were unemployed on the survey target date, only 19% ( $n=5$ ) were actively seeking employment at that time. Of those who were seeking employment, they had spent an average of 6.6 months actively looking for employment (range = 2 months to 12 months).

When asked about their present situation, more than half (54%,  $n=14$ ) of the 26 PhD recipients who were unemployed on the survey target date were enrolled in school when they completed the survey, most often in medical school (42%,  $n=11$ ). An additional 27% ( $n=7$ ) had found employment since the survey target date. Overall, of the 185 respondents to the survey, only 3 (2%) indicated that, when they received the survey, they were unemployed, seeking work, willing to relocate, but unable to find a job. This compares favorably with the overall 1993 national unemployment rate (3%) for new PhD recipients in science and engineering (1). It also compares very favorably with the 1993 unemployment rate for life sciences PhD recipients with 1 year of professional experience (6.5%) (3). Of course, unemployment among PhD scientists and engineers, in general (1.5% in 1995) always compares favorably with the national unemployment rate (5.7% in 1995) (1).

## Employed Graduates

As stated earlier, the large majority of survey respondents (86%,  $n=157$ ) were employed on the target date. These respondents completed a series of questions about the type of employment they held on the target date and how they obtained this position.

**Table 1. Employed Graduates by Permanence of Employment and Sex**

Type of Employment	Respondents					
	Men		Women		Total	
	%	#	%	#	%	#
Permanent	24%	22	27%	17	25%	39
Temporary (detail below)	76%	70	73%	46	75%	116
<i>Postdoctoral position</i>	72%	66	62%	39	68%	105
<i>Other</i>	4%	4	11%	7	7%	11

## Characteristics of the Employment

Nearly all of the employed graduates were in full-time positions (98%). This was similar for male and female graduates. As expected, the majority of graduates were in temporary positions, primarily postdoctoral positions (Table 1). Men were somewhat more likely than women to be in postdoctoral positions. Women were more likely to be in other types of temporary positions.

It should be noted that 25% of recent PhD's in physiology had taken permanent positions within a year of receipt of their doctorate. Persons in permanent positions were employed in US academic departments in universities (28%), clinical departments (22%), business/industry (19%), US government positions (12%, including military), foreign educational/research institutions (12%), and 4-year colleges (6%).

The large majority (92%) of both male and female respondents were employed in the US. Most respondents were employed in educational institutions (82%), primarily professional schools (45%) and four-year colleges and universities (34%) (Table 2). Other non-profit insti-

tutions (8%), government (3%), and business/industry (4%) also employed survey respondents. Only one respondent was self-employed (1%). Male and female graduates were similar in their employment sector. The overall percentages of graduates employed in noneducational sectors were small for both men and women.

As expected, the large majority of respondents (85%) were engaged primarily in research training (85%) (Table 3). Women graduates (79%) were less likely to be in research positions than were men (90%). The small number of persons who indicated "Other" as their primary job responsibility tended to be employed in clinical departments or business/industry.

Employed graduates also reported their annual salary; this information is reported by broad employment sector and by postdoctoral position versus non-postdoctoral position in Table 4. For postdoctoral positions, median annual salaries were \$24,000 for those in educational institutions and \$25,000 for those in other non-profit institutions. Very few PhD recipients took postdoctoral positions in government or industry, therefore the salaries reported here should not be viewed as necessarily

**Table 2. Employed Graduates by Employment Sector and Sex**

Employment Sector	Percentage of Respondents		
	Men	Women	Total
Educational institution	86	78	82
Government	4	3	3
Other nonprofit	7	9	8
Business/industry	2	6	4
Self-employed		2	1
Other	1	2	1

# Doctorate Employment Survey

**Table 3. Primary Emphasis of Employed Graduates' Position, by Sex**

Primary Emphasis of Fellowship	Percentage of Respondents		
	Men	Women	Total
Research training	90	79	85
Clinical service	6	2	4
Both research and practice	2	5	4
Other	2	14	7

representative. Median annual salaries for persons in nonpostdoctoral positions were higher, ranging from \$30,000 for those in educational institutions to \$65,000 for those in nonprofit organizations. Again, the numbers of persons reporting salaries from noneducational institutions was very small.

The expected duration of the graduates' positions was also explored (Table 5). Just over half (55%) of respondents indicated that the position they held would last 2 to 3 years. Women (18%) were more likely than men (6%) to indicate that they were "not sure" how long their position would last.

Finally, graduates responded to questions concerning their perceptions of the position they held on the target survey date (Table 6). They rated several statements on how they perceived their position; ratings ranged from *strongly agree* (value=5) to *strongly disagree* (value=1). Respondents felt strongly that the position they held on the target date was: related to their field (80% answered *strongly agree* or *agree*); commensurate with their education (79% answered *strongly agree* or *agree*); and

professionally challenging (83% answered *strongly agree* or *agree*). Graduates did not respond as positively to the statement, *The position was similar to what I expected to be doing when I began my doctoral program* (63% answered *strongly agree* or *agree*).

Female respondents were less likely to agree with three of the four statements than were males. Only 72% of women compared to 86% of men felt the position they held on the survey target date was related to their field. Similarly, women were somewhat less likely than men to feel the position was commensurate with their education and professionally challenging.

## Graduate Job Search Strategies

Employed graduates also were asked about their job search strategies and the length of their job search. Overall, about 60% of the respondents spent 3 months or less actively seeking employment (Fig. 2). The average number of months spent was 3.4 (median = 3; range = 0 to 19 months). Women spent slightly less time searching

(3.1 months on average) than did men (3.6 months on average).

Graduates were presented with a list of job search methods/strategies and asked initially to check *all* the methods they used, then to indicate which method they felt was most effective. The most commonly used job search methods were information/contacts through the faculty advisor (62%) and through colleagues and friends (55%) (Table 7). Sending unsolicited vitas was also commonly used among the graduates (35%), as was responding to advertisements in newsletters, magazines, and journals (35%). *Science* was the most commonly cited source of advertisements.

Women (43%) were less likely than men (60%) to cite information from faculty advisors as a job search method they utilized. They were also less likely to use advertisements in newsletters, magazines, or journals (24% of female respondents versus 34% of male respondents). Women were more likely than their male colleagues to use newspaper advertisements (17% of female respondents versus 10% of male respondents) and electronic resources (15% of female respondents versus 9% of male respondents).

When asked about the job search method they thought was most effective, the majority of respondents cited the *faculty advisor* (32%) or *colleagues/friends* (24%) (Table 7). Again, there were differences between male and female graduates. For women, informal contacts – colleagues and friends – were selected slightly more

**Table 4. Employed Graduates' Median Annual Salary, by Broad Employment Sector, Postdoctoral Status, and Sex**

Employment Sector	Median Annual Salary (in thousands)					
	Postdoctoral Fellows			Nonpostdoctoral Fellows		
	Median	Range	<i>n</i>	Median	Range	<i>n</i>
All educational institutions	\$24.0	\$19.0 - 49.0	83	\$30.0	\$20.0 - 53.0	28
9-10 months salary	24.0		1	33.5	28.0 - 53.0	8
11-12 months salary	24.0	19.0 - 40.5	76	27.2	20.0 - 40.0	16
Government	28.0		1	52.4	50.0 - 54.9	2
Other nonprofit	25.0	20.7 - 35.0	9	65.0	25.0 - 70.0	3
Business/industry	35.0		1	45.0	30.0 - 50.0	5
Self-employed						
Other	33.0	29.0 - 37.0	2			
TOTAL	24.0	19.0 - 49.0	99	32.0	20.0 - 80.0	43

# Doctorate Employment Survey

**Table 5. Expected Duration of Employed Graduates' Positions by Sex**

Duration of Position	Percentage of Respondents		
	Men	Women	Total
3 months or less	6	8	
4-11 months	2	18	
12-23 months	15	5	
2-3 years	61	10	3
More than 3 years	12	47	13
Other	4	12	55

**Table 6. Employed Graduates' Perceptions, by Sex**

Statement	Percentage Responding Strongly Agree/Agree		
	Men	Women	Total
The position was related to my field.	86	72	80
The position was commensurate with my education and training.	81	75	79
The position was similar to what I expected to be doing when I began my doctoral program.	62	65	63
The position was professionally challenging.	86	78	83

often than their faculty advisor as the most effective job search method (30% versus 27%). For men, however, the faculty advisor was selected most often (36%), nearly twice as often as informal contacts (18%). For men, sending an unsolicited vita (17%) was cited nearly as often as informal contacts as the most effective job method.

## Conclusions

Overall, the large majority of physiology PhD recipients in this initial study were employed in full-time positions within a year following the receipt of their degree. Surprisingly, only 68% of the employed PhD recipients described their employment as a "postdoctoral position," and 25% of degree recipients accepted employment they described as "permanent." Therefore, the "traditional" career path continues to describe the first professional position for the majority of physiology PhD recipients but does not match the activities of a significant proportion of new physiologists leaving the graduate programs.

Graduate students rely heavily upon

the information provided by their faculty advisor, colleagues, and friends as they search for their first professional position. The average length of job search for the large majority of students is not long, on average less than four months. It also does

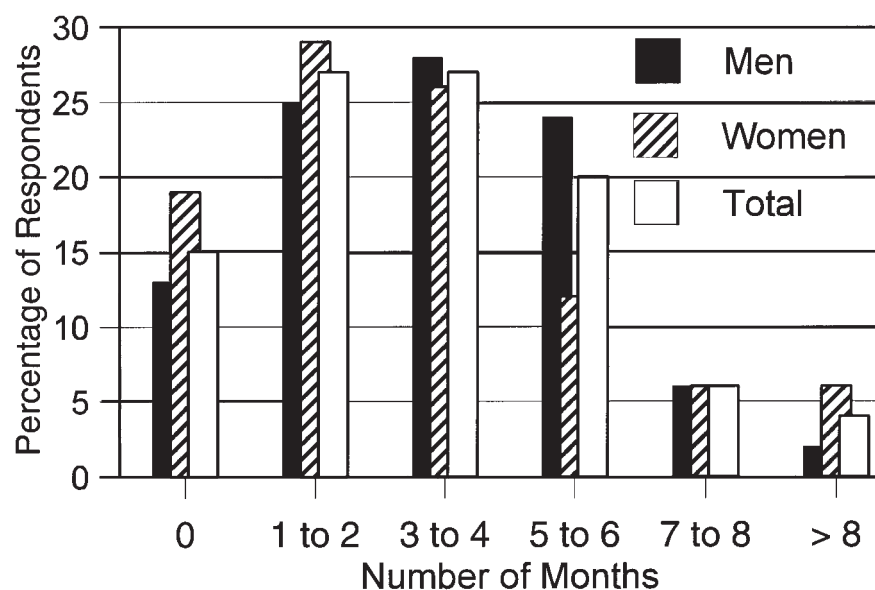
not appear that a significant proportion of the recent physiology graduates are "underemployed," that is, where the person is employed in a position not commensurate with his/her training. The large majority of respondents felt they were in positions within their field and commensurate with their education.

## Future Studies

The data presented here raise a number of questions:

Will the patterns of demographics, employment, primary work activities, and job search methods be similar for future cohorts of physiology PhD recipients? Will the gender differences found in this initial study be repeated in future cohorts of graduates? As additional cohorts of data are added, will specific patterns of employment and training issues be found for recipients from the different racial/ethnic groups?

In order to address these questions, the APS is continuing the annual Survey of Employment Experiences of Recent Doctoral Graduates in Physiology. Surveys are currently being completed and received from 1996-97 PhD recipients and physiology departments are preparing lists of their 1997-98 doctoral recipients. 1997-98 doc-



**Figure 2. Number of Months Employed Graduates Spent Actively Looking for Employment, by Sex.**

# Doctorate Employment Survey

Table 7. Job Search Methods Used by Employed Graduates, by Sex

Job Search Methods	Percentage of Respondents					
	...using this job search method			...finding this the most effective job search method		
	Men	Women	Total	Men	Women	Total
Faculty advisor	60	43	62	36	27	32
Informal channels (e.g., colleague or friend)	47	47	55	18	30	24
Newspaper advertisement	10	17	15		2	1
Newsletter, magazine, or journal	34	24	35	12	7	10
Placement service	12	9	13	5		3
Employment agency		3	1			
Met employer through former job/position	14	21	19	5	12	8
Sent unsolicited vita	32	28	35	17	12	15
Received unsolicited offer	4	8	7			
Electronic resource	9	15	13	3	7	4
Other	6	9	9	4	3	4

toral recipients will receive their survey in winter 1999.

There are additional questions raised by this initial set of data. In particular, what will the employment of this cohort of PhD recipients look like 5 years in the future? 10 years? APS hopes to survey the annual cohorts of PhD recipients on a periodic basis in order to gain insights on the actual career paths of new physiologists in the various employment sectors and to track trends in the overall employment of physiologists.

The validity of this type of field-specific data depends heavily on the investment of time made by members of the physiology community, especially recent

graduates who are willing to complete the surveys; department faculty and staff who share information on recent graduates; and faculty advisors and postdoctoral employers who encourage their students and employees to participate in these professional activities. The APS is grateful to all those who have participated in the first two years of this ongoing study and welcomes the input of members and students on the types of questions they hope can be answered by this new set of databases. For additional information, see the APS web site at <http://www.faseb.org/aps/educatn/cpst.htm> or contact Marsha Lakes Matyas, APS Education Officer at [mmatyas@aps.faseb.org](mailto:mmatyas@aps.faseb.org) or 301-530-7132.

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## Moving?

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



# 151st Business Meeting

**Time:** 5:45 PM, Tuesday, April 21, 1998

**Place:** Moscone Convention Center,  
San Francisco, CA



## I. Call to Order

The meeting was called to order at 5:45 PM by President **Allen W. Cowley, Jr.**, who welcomed the members to the 151st Business Meeting of the American Physiological Society. Distributed with the agenda was a list of the recipients of APS awards. President Cowley selected **Robert E. Forster II** as parliamentarian.

## II. Election of Officers

It was with great pleasure that Executive Director **Martin Frank** announced the results of the election of officers that was conducted by mail ballot. The membership elected **Walter F. Boron**, Yale University, as President-Elect (April 22, 1998 - April 21, 1999). The two newly elected Councillors are **Ethan R. Nadel**, John B. Pierce Laboratory, and **Phyllis M. Wise**, University of Kentucky (April 22, 1998 - April 4, 2001). They will assume office at the close of the Annual Meeting. They are replacing Walter F. Boron and Gerald F. DiBona, who are completing three-year terms on Council.

## III. State of the Society

Cowley mentioned that each year the President of the Society has the opportunity to review the year and comment on the state of the Society at the annual Business Meeting.

He reminded the membership that, in the preceding year under the leadership of James Schafer, Council had initiated a Member Needs Assessment Survey. Over 1,200 members completed the survey, the results of which were published in the February issue of *The Physiologist*. The majority of the membership thought that the Society was doing well for the most part. The journal program is seen as being very strong. The specific goals suggested in the 1992 Strategic Plan have been implemented and are functioning well. The membership of the Society remains stable. Financially, the Society is strong and through prudent investments, the reserves are growing, which allows APS to undertake new programs that will benefit the membership. Cowley noted that APS is very fortunate to have **Martin Frank** as its Executive Director and commended him along with the 70 staff members at the headquarters in Bethesda, MD, for their hard work on behalf of the Society. There are many positive things happening in the Society and that came through in the survey results.

However, Cowley pointed out that there are some things with which the membership was not happy, such as programming. While there have been many positive changes over the past five years in that area, more work is still needed.

In 1996 the Long-Range Planning Committee presented its report entitled "The Sun Breaks Through the Clouds: A Bright Future for Physiology." The report noted that physiology is experiencing a resurgence as research becomes increasingly directed toward understanding integrative biological function after being eclipsed for the past 25 years while the field of molecu-

lar biology exploded.

Cowley reminded the members that even though he agreed that the future of physiology did look bright when he assumed his role as the 70th President of the Society, he did not necessarily feel the future of APS was as bright. He noted that despite its financial resources and stable membership, the Society seemed to be languishing scientifically. Many of the younger physiologists were not excited about attending the APS scientific meetings and even the established members were beginning to migrate to other more exciting venues.

Cowley decided to focus on three major agenda items during his presidency: 1) strengthening APS sections and scientific programming, 2) physiological genomics, and 3) APS publications (*American Journal of Physiology* centennial and online publications).

### A. Sections/Programming

Cowley decided to take steps "to develop and implement strategies that will revitalize our scientific meetings and make them the place to be and be heard." One of his first actions was to convene a Blue Ribbon Panel last fall to discuss how to revamp the Society's programming efforts. It was also important to emphasize the role the sections play in the Society's programming and to try and deal with the lack of leadership in some sections and a lack of opportunities in the sections for involvement. Those appointed to the Blue Ribbon Panel included members, both active and not active, as well as nonmembers. The group met in Bethesda and was charged with developing strategies that when implemented would revitalize the Society's scientific meetings and make them the place to be and be heard. Those recommendations (as reported in the February issue of *The Physiologist*) were then taken to the joint Council/Section Advisory Committee retreat that was held in conjunction with the APS fall conference. That

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group then spent another two days further fine-tuning the recommendations.

Following that joint meeting, Council met and approved the following changes. 1) Sections were given the responsibility for programming a designated number of scientific sessions at the Experimental Biology meeting in order to create "sectional meetings within a meeting." 2) Section Program Committees (SPCs) were initiated. Each section's program will be developed by these newly formed committees. 3) Two-thirds of the Experimental Biology program will be developed at the section level (including symposia, minisymposia, and posters). 4) APS will provide financial support for the business of section programming. 5) APS has established "listservs" for each of the sections, allowing for more rapid dissemination of section business.

In addition, a new Joint Program Committee (JPC) was created that will replace the current Program Committee and Program Advisory Committee. One-half of the JPC will be comprised of SPC chairs and the other half will be appointed by Council. It will have an advisory role with regard to the sections' programs and will determine how many oral session slots are assigned to individual sections. The JPC will also be responsible for designing the remaining one-third of the program. It will be asked to identify newly emerging cross-disciplinary areas of science, coordinate programming in areas of overarching cross-disciplinary interests, and work to "seed" the program by developing InFocus programs (e.g., physiological genomics). Cowley remarked that although the JPC is not fully operational yet, that will occur in June. To date, feedback from the sections with regard to the changes in programming has been very positive. Sections are working hard to develop the best programs possible for next year's meeting.

Cowley noted that some of the recommendations of the Blue Ribbon

Panel have already been acted on for this year's meeting, such as the nonconflicting poster presentation times. Even though in the past many scientists were not enthusiastic about attending the Experimental Biology meeting, Cowley reported that this year there seems to be more excitement about the meeting than has been seen in recent years.

### B. Physiological Genomics

Cowley reminded the membership that last February he had organized a Banbury Center Conference entitled "Genomics to Physiology and Beyond: How Do We Get There?" The conference was funded by APS with additional support from Ciba-Geigy Corporation and Burroughs Wellcome Foundation. He reported that three items came out of that meeting. 1) There is a real need for people in the genomics field to begin bridging their genetic work with that of people in the physiological field. 2) The major bottleneck to the advancement of this research will be the lack of physiologists and pharmacologists who study the functional aspects of cells, organs, and whole animals and who also know some genomics. 3) There are tremendous opportunities in this area, which encouraged APS to begin supporting the idea of cross-training of physiologists. Based on the excitement at that conference, Cowley organized a "hot topic" symposia at the Experimental Biology '97 meeting and an InFocus program at Experimental Biology '98.

Cowley also announced that APS is committed enough to this new physiology discipline and foresees enough opportunities in the future that the Society will be starting a new journal called *Physiological Genomics*. APS plans for this journal to become the preeminent place for scientists to publish articles in this field. An Editor and Senior Editors, who will be announced shortly, have been selected and are among the best people possible from the fields of genomics to physiology. On May 18

Cowley will be attending a meeting with those people to finalize the organizational details. Although Cowley admitted that it is difficult to start a new journal, Council thinks the time is right and the finances are available. In addition, there is a tremendous amount of excitement in the genomics community about the journal. There are currently plans to make this an all-electronic journal in terms of submission, reviewing, and copyediting. The journal will be both print and online.

Through this development of this journal and the Society's scientific programming efforts, Cowley sees the Society as starting a process that will shape its future and make APS a central player in efforts to develop a functional understanding of the genetic information arising from the Human Genome Project.

### C. APS Publications

Cowley announced that in 1998 APS is celebrating 100 years of publishing the *American Journal of Physiology*. Part of the celebration during the Experimental Biology meeting has included a dramatic presentation. (see p. 199) It covered the progress of APS publications from the single-handed management of one journal (*AJP*) by William Townsend Porter to the current 14 journals comprised of 34,000 pages, and a budget of \$12 million. It is due to the profits generated by the Society's publications that many of the programs currently enjoyed by the membership are supported.

As APS heads into its second century of publishing, all of the research journals will be online by the end of 1998, a new journal will begin in 1999, and the Society will continue to move toward greater electronic processing of manuscripts. Cowley noted that all of these advances are due to the hard work of the Publications Committee Chair, **Leonard Johnson**, and the APS staff.

In closing, Cowley remarked that

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the Society is doing very well in many areas and is implementing some exciting new ventures in both programming and publications. He noted that no other society is positioned as well to be the organizing element for the integration of research related to the expression of gene function at the level of the cell, organ and organism. The need for the integration of these various levels of biological function has never been greater. All of this provides an exciting and important opportunity for APS and Cowley was pleased to report that the Society has begun to embrace and respond to these exciting challenges.



## IV. Report on Membership

### A. Summary of the Membership Status

President-Elect **L. Gabriel Navar** reported on the status of the Society membership. As of March 10, 1998, the current membership of the Society is 8,553, of which 5,511 are regular, 37 honorary, 1,008 emeritus, 871 corresponding, 26 affiliate, and 1,100 student members. During the meeting, Council approved the election of 113 people to regular membership and 33 people to corresponding membership. In addition, at this meeting, two physi-

ologists were elected by Council to honorary membership: **Bengt Andersson**, University of Uppsala, Sweden, (see p. 196) and **Stefan Angielski**, Medical Academy, Gdansk, Poland. (see p. 195) With the addition of these candidates, the Society's membership stands at 8,701.

### B. Deaths Reported Since the Last Meeting

The names of those members whose deaths had been reported since the last meeting were read by Navar, and the membership observed a moment of silence in tribute to their deceased colleagues.

## V. Awards and Presentations

### A. Giles F. Filley Memorial Awards

As a result of a bequest from the family of Giles F. Filley, a memorial fund was established in 1993 to recognize excellence in respiratory physiology and medicine. Two annual awards are made to investigators who hold an academic rank no higher than assistant professor and are pursuing research in respiratory physiology and medicine. Awards are made to APS members working in the United States, who have demonstrated outstanding promise based on their research program.

President Cowley presented the 1998 awards to **Mita Das**, University of Colorado, Denver, and **Christopher Waters**, Northwestern University. Das was selected for her investigations which focus on whether functionally and phenotypically distinct fibroblast subpopulations exist in bovine pulmonary artery adventitia that can exhibit marked differences in their proliferative and matrix protein production responses to hypoxia, whether the hypoxic proliferation of the hypoxia-sensitive subpopulations is regulated at least in part by the  $\text{Ca}^{2+}$ -dependent isozymes of PKC and/or MAPK, and



President Allen Cowley, Jr. and Filley Awardees, Mita Das and Christopher Waters.

whether apoptosis is preferentially induced in unique subpopulations of fibroblasts, thus providing a mechanism to limit excessive remodeling. Waters' research is in the new and rapidly growing field of cellular bioengineering. He uses cell culture experimental work combined with quantitative analysis to determine biophysical mechanisms that regulate fluid balance and transport in the lungs and mechanisms by which physical forces such as fluid shear stress and cyclic strain regulate the function of lung cells.

Each recipient received a \$12,000 check for use in his/her respective research program, a plaque, and reimbursement of expenses to attend the Experimental Biology meeting.

### B. Arthur C. Guyton Award for Excellence in Integrative Physiology

A donation to the Society in honor of Arthur C. Guyton led to the establishment in 1997 of an award to recognize excellence in integrative physiology. One award is made annually to a regular APS member who demonstrates outstanding promise based on his/her research program in feedback, mathematical modeling, and integrative physiology.

President Cowley presented the 1998 Arthur C. Guyton Award for Excellence in Integrative Physiology to **Stephen C. George**, University of California, Irvine. George's research pro-



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gram focuses on understanding nonrespiratory gas exchange dynamics in the lungs. Specific interests include the exchange dynamics of ethanol and nitric oxide. Because a large fraction of the airway and the entire alveolar region are essentially inaccessible to direct experimental measurement, mathematical modeling plays a critical role in George's research both for understanding and interpreting experimental results and for predicting and designing new experiments.



President Allen Cowley, Jr. presenting a certificate to Guyton Awardee Steven George.

George received a \$15,000 check for use in his research program, a plaque, and reimbursement of expenses to attend the Experimental Biology meeting.

## C. Caroline tum Suden/Frances Hellebrandt Professional Opportunity Awards



President Allen Cowley, Jr. presenting a plaque to outgoing Councillor Walter Boron.

Twenty awards were made possible by the bequests of Caroline tum Suden and Frances Hellebrandt, who were long-time members of the Society (see p. 169). Awards are open to graduate students or postdoctoral fellows who present papers at the spring meeting. Recipients receive a \$500 check for travel to the Experimental Biology meeting, paid registration, and have access to the FASEB Placement Service. **Kim Barrett**, Chair of the Women in Physiology Committee, presented the awards.

## D. Procter & Gamble Professional Opportunity Awards

The Procter and Gamble Company, a multinational, technically based consumer products corporation, provides support for the APS Professional Opportunities Awards (see p. 168). The APS sections selected 17 predoctoral students who are within 12-18 months of receiving a PhD degree and are presenting a paper as first author at the spring meeting. Paid registration and \$500 checks were given to the awardees.

## E. Minority Travel Fellowships

Frank announced that 42 Minority Travel Fellowship awards, funded by



President Allen Cowley, Jr. presenting a plaque to outgoing Councillor Gerald DiBona.

NIDDK and NIGMS, were presented to minority students to help them attend the Experimental Biology '98 meeting (see p. 169).

## F. Recognition of Outgoing Councillors

Councillors **Walter F. Boron** and **Gerald F. DiBona** complete their terms at the close of this meeting. Cowley expressed pleasure in having had the opportunity to serve on Council with them and recognized their dedication and guidance to the Society, presenting each with a plaque.

Announcing that this is **James A. Schafer's** last meeting as an officer of the Society, Cowley noted that it was a special pleasure to recognize him for his strong and balanced leadership, sound judgement, thoughtful input, and true service to the Society. A plaque honoring his presidency was given to Schafer.

## VI. New Business

**Tony Macknight**, the organizer of the IUPS Congress to be held in 2001 in Christchurch, New Zealand, issued an invitation to APS members to attend the Congress. He reported that a great deal of work has already been done with regard to the meeting. He announced that an outline of the scientific program will be available on their Web



President Allen Cowley, Jr. presenting a plaque to Past President James Schafer.



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page (<http://www.iups2001.org.nz>) shortly. Next year, he plans to have a major presence at the Experimental Biology meeting with more information about the scientific program, registration costs, housing, etc. He noted that IUPS is looking forward to the Congress in 2001 and plans on using it as a springboard to 2005 when APS and the US will be hosting the Congress.

Cowley finished by saying "These are very exciting times for APS and I am sure the Society will continue to grow. I have appreciated the chance to serve as President."

Cowley then turned the gavel over to **L. Gabriel Navar**, Tulane University, the incoming President of the American Physiological Society. Navar stated that, "on behalf of all the members of the Society I would like to extend an enormous thanks to Allen Cowley for



President Allen Cowley, Jr. passing the gavel to President-elect L. Gabriel Navar.

all his efforts this past year." He also thanked James Schafer for his many contributions. Navar noted that he and Cowley will be working closely together over the next year and that he owes Cowley a great deal for all the hard work he has done in past year and will do in the future.

In closing, Navar encouraged members to read the article he wrote for the April issue of *The Physiologist*. This is an exciting time for physiologists, and he remarked that "it is time to throw away the sackcloth and ashes and quit beating ourselves. We have everything we need to be successful. We are a service society and we will succeed if we provide the services our constituents want. The Society needs to be responsive and fulfill the needs of our constituents. We need to work hard, to be diligent in our efforts, and support what is needed. I am looking forward to serving as President this next year."

There being no other business, the meeting was adjourned at 6:48 pm, April 21, 1998. ♦

*L. Gabriel Navar  
President-Elect*



APS Council and Section Advisory Committee: Back (l to r): Jurgen Schnerman, Paul De Weer, David Evans, John Williams, Ronald Freeman, Robert Carroll, Dale Benos, Allen Cowley, Hannah Carey, John Hall, Charles Tipton, Martin Frank, Sadis Matalon, Walter Boron, James Schafer, Gabriel Navar. Front (l to r): David Wasserman, Barbara Goodman, Bruce Lindsey, Gerald DiBona, Eileen Hasser, Richard Traystman, Celia Sladek. Not shown: Fitz-Roy Curry.

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Past Presidents (l to r): Ernst Knobil, Aubrey Taylor, John West, Brian Duling, Vernon Bishop, Stanley Schultz, Bodil Schmidt-Nielsen, L. Gabriel Navar, William Dantzler, James Schafer, Franklyn Knox, Walter Boron, Allen Cowley, Jr.

### Deadlines! Deadlines!

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

#### Award

#### Next Deadline

Orr E. Reynolds History Award	December 1
Research Career Enhancement Awards	August 15
William T. Porter Fellowship Awards	January 15
Giles F. Filley Memorial Awards for Excellence in Respiratory Physiology and Medicine	December 1
Caroline tum Suden/Francis A. Hellebrandt Professional Opportunity Awards	November 16
NIDDK Travel Fellowships for Minority Physiologists	November 23
John F. Perkins, Jr., Memorial Fellowships	November 15
APS Postdoctoral Fellowship in Physiological Genomics	January 15
Arthur C. Guyton Awards for Excellence in Integrative Physiology	December 1
Teaching Career Enhancement Awards	October 15
Liaison With Industry Award	November 16
AAAS Mass Media Science and Engineering Fellowship	January 15

## Awards

### Ray G. Daggs Award

Ray G. Daggs was the APS Executive Secretary-Treasurer from 1956 until his retirement in 1982. In tribute to his devotion to the Society, the Ray G. Daggs Award was established, and is given annually to a physiologist for distinguished service to the Society and to the science of physiology.

President Allen W. Cowley, Jr. was pleased to announce that the recipient of the 1998 Ray G. Daggs Award is **John B. West**.

John West was born in Adelaide, Australia and obtained his MBBS and MD degrees from Adelaide University. He then obtained a PhD from London University and, in 1960, signed on as the physiologist on Sir Edmund Hillary's Himalayan Scientific



Daggs Awardee John West with APS President Allen Cowley, Jr.

and Mountaineering Expedition. During that expedition, he made extensive physiological observations, around the base of Mount Everest. (Parenthetically, he also led the American Medical Research Expedition to Everest in 1981, and on that expedition he also made physiological observations at the summit of the mountain. Therefore, it can be said with some assurance that he is the only winner of the Daggs Award who has climbed Mount Everest.)

After the first Everest expedition, West spent a postdoctoral year in Herman Rahn's Department of Physiology at the University of Buffalo, and five years as Director of the Medical Research Council Respiratory Research Group in London. He then spent a one-year sabbatical at NASA-Ames Research Center, Moffett Field, California, and in 1969, joined the new medical school at the University of

California, San Diego as Professor of Medicine and Physiology.

West has served the APS in a variety of ways. Not only did he serve on the Editorial Boards of the *American Journal of Physiology*, the *Journal of*

*Applied Physiology*, and *Respiratory Physiology*, but he was the leader in establishing the APS History of Physiology Group. In 1981, he was elected to the Council and in 1984, he became President of APS. He also served an important liaison role between APS and numerous committees and commissions of the International Union of Physiological Sciences and the National Research Council. In addition, he served on the Physiology Test Committee of the National Board of Medical Examiners.

The Daggs Award recognizes individuals not only for their contributions to APS but to the science of physiology. It is important in this regard that West has given scientific advice to NASA and helped design worthwhile physiology experiments that were subsequently carried out in space. He has been a good ambassador for NASA, speaking at the

Federation and other meetings about NASA's programs and attracting the interest of students to the scientific challenges of space flight.

In research, West has performed innovative experiments that have added significantly to our knowledge of respiratory physiology, with emphasis on the distribution of pulmonary blood flow and the effects of gravity on the lung.

Finally, West has contributed to physiology as a teacher and textbook writer. His *Respiratory Physiology - The Essentials* is now in its fifth edition, has been extensively translated, and is currently required reading for students of the health professions in many parts of the world. He has also shepherded Best and Taylor through its eleventh and twelfth editions. Several other books that he has written give historical perspective to respiratory physiology.

For all that John West has done in and for the American Physiological Society and more broadly, the science of physiology, the accolade of the Daggs Award is richly deserved.

In accepting the Daggs Award, West noted that "it is a very great honor to be given this award, and I am enormously grateful to the Society. However, I am not so naive to think that there are not plenty of other people just as deserving of this award and also not so naive to think that you want to hear a speech." West commented that physiology is the prince of science. If one thinks in terms of science as being the function of living things, there can be no more exciting field than physiology. He also pointed out that with the profession's responsibility of teaching medical students, at least when physiologists come to the end of their careers, they can say that they have done more good than harm, a claim not all other professions can make. ❖

## Awards

### Predoctoral Students Win Procter & Gamble Professional Opportunity Awards

Once again, APS has been able to recognize the valuable contributions of predoctoral students to the science of physiology, as a result of a generous contribution provided by the Procter & Gamble Company. Students apply for the Procter & Gamble Professional Opportunity Award through one of the 12 sections of the Society. Selection of the awardees is made by the sections, and the number of awards each section makes is based on the number of applications submitted. Seventeen awardees were selected to attend EB '98 in San Francisco, CA. Each awardee received \$500, a certificate of recognition, and complimentary registration for the EB meeting. They were presented their awards at the APS Business Meeting at EB '98. Awardees were:

#### *Cardiovascular Section*

**Eric J. Kunkel**, University of Virginia  
**Patrick I. McConnell**, University of Nebraska Coll. of Med.  
**Elizabeth Nora**, Medical College of Wisconsin  
**Steven H. Platts**, Texas A&M University Health Sc. Ctr.  
**David S. Weber**, Medical College of Wisconsin



Procter & Gamble awardees. APS Business Meeting at Experimental Biology '98 in San Francisco, CA.

#### *Cell & General Physiology Section*

**Theodore R. Muth**, Yale University  
**Alejandro Ortiz-Acevedo**, University of California, Davis

#### *Central Nervous System Section*

**Ronald Gerrits**, Medical College of Wisconsin

#### *Endocrinology & Metabolism Section*

**Darren M. Roesch**, University of Florida

#### *Environmental & Exercise Physiology Section*

**David G. Peters**, Boston University

#### *Gastrointestinal Section*

**Sepehr Eskandari**, University of California, Los Angeles

#### *Neural Control & Autonomic Regulation Section*

**Amy M. Kitchen**, Wayne State University School of Med.

#### *Renal Section*

**Clara E. Magyar**, University of Southern California

#### *Respiration Section*

**Emilio Mazza, Jr.**, UMDNJ-Robert Wood Johnson Med. Sch.  
**Daniel J. Tschumperlin**, University of Pennsylvania

#### *Teaching of Physiology Section*

**Kira Wennstrom**, University of Texas

#### *Water & Electrolyte Homeostasis Section*

**Darrell Lange**, University of Texas Health Science Center, San Antonio

### 1998 Bowditch Award



Past President James Schafer presenting plaque to Bowditch Award Lecturer Michael Caplan.

### 1998 Cannon Award



President Allen Cowley, Jr. presenting plaque to Cannon Award lecturer Eric Kandel.



## Awards

### Caroline tum Suden/Frances A. Hellebrandt Professional Opportunity Awards

Graduate students and postdoctoral fellows submitted 108 applications for the 1998 Caroline tum Suden/Frances A. Hellebrandt Professional Opportunity Award. The APS Women in Physiology Committee, chaired by Kim Barrett of the University of California at San Diego, selected 20 awardees who attended EB '98 in San Francisco, CA. Applicants were chosen based on two criteria: the quality of their abstracts and the content of letters written by the applicants that explained their goals, research, and why they were particularly deserving of the award. Each awardee received \$500, a certificate of recognition, and complimentary registration for the EB '98 meeting. Awards were presented during the APS Business Meeting at EB '98. Awardees were:



1998 tum Suden/Hellebrandt awardees with Kim Barrett, Chair of the Women in Physiology Committee

**Steve Bibeovski**, VA Medical Center, Cleveland

**Robert W. Brock**, University of Western Ontario

**Christopher M. Clevenger**, University of Colorado

**Heather A. Drummond**, University of Iowa

**Clifford T. Fulton**, Northeastern Ohio University

**Kawanza L. Griffin**, University of Missouri

**Carol A. Gunnett**, University of Iowa

**Muhammad Iqbal**, West Virginia University

**Michael G. Janech**, Medical Univ. of South Carolina

**Kristy D. Lake**, University of Iowa

**Lisa M. Landrum**, University of Oklahoma

**Hector Licea**, Tulane University School of Medicine

**Jun-Li Liu**, University of Nebraska College of Medicine

**Rong Ma**, University of Nebraska Medical Center

**Wenjun Z. Martini**, Shriners Burn Institute

**Diane H. Munzenmaier**, Medical College of Wisconsin

**Michael Salvatore**, Louisiana State University Med. Ctr.

**Gina M. Story**, Northeastern Ohio University

**Nathan Trueblood**, University of California, Davis

**Jayashree Venkatasubramanian**, Univ. of Ill. at Chicago

### Minority Travel Fellowships Awarded for EB '98

Since 1987, APS has awarded travel fellowships to underrepresented minorities to attend the APS/EB meeting each spring. These travel awards are supported by the National Institute of Diabetes and Digestive and Kidney Diseases and the National Institute of General Medical Sciences. The

program provides awardees with funds for transportation, meals, and lodging, and offers complimentary meeting registration. This year, 42 minority students won awards enabling them to attend EB '98 in San Francisco, CA. The fellows were each assigned to a mentor to help the fellows make the



1998 APS Minority Travel Awardees (includes NIDDK-funded awardees and NIGMS-funded awardees).



Greg Florant from the Colorado State University was the featured speaker at 1998 APS Minority Travel Awardees luncheon during EB '98.

## Awards

most of their experiences at the meeting. The mentors, all of whom were APS members, provided guidance on sessions to attend, introduced fellows to other scientists, and offered career advice. Finally, the fellows and their mentors attended a closing luncheon, during which they reviewed the week's scientific activities and heard an address by APS member Gregory Florant from the Colorado State University. Florant spoke about his research and gave career advice to the awardees based on his experiences.

The travel awards are open to graduate students, postdoctoral students, and advanced undergraduate students from minority groups underrepresented in science, i.e., African Americans, Hispanics, Native Americans, and Pacific Islanders. Students must be US citizens or permanent residents. The specific intent of this award is to increase participation of pre- and postdoctoral minority students in the physiological sciences.

### EB '98 Minority Travel Fellows were:

**Adwoa D. Aduonum-McKinney**, Meharry Medical College  
**Biree Andemariam**, Tufts University School of Medicine  
**Rowin S. Begay**, Northern Arizona University  
**Qadriyyah J. Debnam-Pillow**, Meharry Medical College  
**Danita Eatman**, Northeastern Ohio Univ. College of Med.  
**Ana Y. Estevez**, Wayne State Univ. School of Medicine  
**Steve Ewing**, Dull Knife Memorial College  
**Maria Florez-Duquet**, University of Delaware  
**Billie J. Foote**, Dull Knife Memorial College  
**Gerald D. Frank**, Meharry Medical College  
**Felipe Galicia**, California State Univ., San Bernardino  
**Monica Gallegos**, New Mexico Highlands University  
**Marjorie Glatzmeier**, Blackfeet Community College  
**Terri D. Gomez**, University of Wisconsin, Madison  
**Gerry Herrera**, University of Vermont  
**Sheree M. Johnson**, National Institutes of Health  
**Karen F. Johnson-Mills**, University of South Florida  
**Keri Kles**, University of Illinois  
**Rhonda J. Kuykindoll**, University of Tennessee  
**Kimberly D. Lee**, Indiana U./Purdue U. at Indianapolis  
**Barbara Lujan**, Inst. for Exercise & Environmental Med.  
**Johnalyn D. Lyles**, University of Maryland, Baltimore  
**Bob Madsen**, Dull Knife Memorial College  
**Sheila A. Mathias**, Meharry Medical College  
**Colette C. Matthews**, University of North Carolina  
**James Eric McDuffie**, Meharry Medical College  
**Ronald K. McMillon**, University of South Alabama  
**Karmardi Mills**, Meharry Medical College  
**Deidra Montague**, Univ. of North Carolina at Chapel Hill  
**Cassandra Prioleau**, Univ. of North Carolina at Chapel Hill  
**Phyllis Y. Reaves**, University of Florida  
**Joel M. Solano**, Arizona State University  
**JoHanna Spang**, Dull Knife Memorial College  
**Sherell Stokes**, Meharry Medical College

**George D. Thorne**, University of Cincinnati  
**Jerry Trevino**, University of Texas at San Antonio  
**Brian Underhill**, California State Univ., San Bernardino  
**Tino Unlap**, University of Alabama at Birmingham  
**Selene Virk**, New Mexico State University  
**Matthew Walker, III**, Tulane University School of Medicine  
**James A. Weaver**, Pennsylvania State University  
**Lori Wesely**, Georgetown Univ. School of Medicine  
**APS Members who served as mentors to the awardees were:**  
**William J. Arendshorst**, Univ. of North Carolina  
**Mouhamed Awayda**, Tulane University Medical School  
**Susan M. Barman**, Michigan State University  
**Kathleen H. Berecek**, University of Alabama  
**Marvin H. Bernstein**, New Mexico State University  
**Dona Boggs**, Eastern Washington University  
**Ann Bonham**, University of California, Davis  
**Zeljko Bosnjak**, Medical College of Wisconsin  
**Eldon J. Braun**, University of Arizona  
**Steven L. Britton**, Medical College of Ohio  
**George Brooks**, University of California, Berkeley  
**Rob Carroll**, East Carolina University  
**Phillip Clifford**, Medical College of Wisconsin  
**Margaret Colden-Stanfield**, Morehouse Sch. of Medicine  
**Deborah Damon**, University of Vermont  
**Peter A. Farrell**, Pennsylvania State University  
**Alan R. Hargens**, NASA Ames Research Center  
**Eileen Hasser**, University of Missouri, Columbia  
**Robert A. Herb**, Northern Arizona University  
**Irving Joshua**, University of Louisville School of Medicine  
**William L. Joyner**, East Tennessee State University  
**Ulla C. Kopp**, University of Iowa College of Medicine  
**Carol Liedtke**, Case Western Reserve University  
**Michael I. Lindinger**, University of Guelph  
**Lawrence D. Longo**, Loma Linda University  
**Kim E. Longworth**, University of California, Davis  
**Luke Mortensen**, Univ. of Osteopathic Med. & Health Sci.  
**James Mrotek**, Meharry Med. College/Texas Tech Univ.  
**Heidi K. Ortmeyer**, University of Maryland at Baltimore  
**Jeffrey L. Osborn**, Medical College of Wisconsin  
**C. Subah Packer**, Indiana University  
**Richard Paul**, University of Cincinnati  
**Jane F. Reckelhoff**, University of Mississippi Med. Center  
**Roy D. Russ**, Mercer University School of Medicine  
**Dee Silverthorn**, University of Texas  
**John N. Stallone**, Northeastern Ohio Universities  
**Robert J. Tomanek**, University of Iowa  
**Catherine F.T. Uyehara**, Tripler Army Medical Center  
**Alice Villalobos**, University of Connecticut  
**Benjamin R. Walker**, University of New Mexico  
**William B. Wead**, University of Louisville School of Medicine  
**Stephen C. Wood**, Northeastern Ohio Univ. College of Medicine

## Committee Reports

### Animal Care and Experimentation Committee

Last year the Animal Care and Experimentation Committee (ACEC) organized a symposium at the NABT (National Association of Biology Teachers) meeting in Minneapolis in the fall of 1997. The event was well received. It was an important proactive opportunity to educate biology teachers about biomedical research. Because of the positive feedback received, the ACEC Committee will sponsor another NABT Symposium this fall in Reno, Nevada. The title of the APS sponsored symposium is "The How's and Why's of Animals in Research." Discussions will include "what do animals contribute to research and what are considerations for using animals in research"; "the IACUC process, or how is animal research approved"; and "the teacher's perspective on animals in research and education." Because this effort was so well received, and also to counter the influence of the negative messages that animal rights activists present to elementary and high school students about animal based research, the ACEC recommends that APS members become involved in local science teachers' meetings to develop similar programs.

The ACEC is also in the discussion stage regarding the development of targeted web pages for young audiences. These pages would depart from our typical approach to animal research in order to engage readers who may already be thinking of animal research in a skeptical or negative manner. This topic is still under discussion and we are soliciting input from committee members concerning an effective approach for web page development.

One major symposium was sponsored by ACEC at the 1998 EB meeting. The meeting was well attended and many of the discussions were lively. The symposium, entitled "Institutional Animal Care and Use Committee Issues Roundtable," was an outgrowth of comments following the Committee's 1996 symposium. At that time several individuals had indicated that a review of areas that trouble IACUCs and how other institutions deal with them would be helpful. Issues discussed included the role of the IACUC in scientific review of protocols, compliance with protocol approval, death as an endpoint, noncompliance with training requirements, in vitro methods of monoclonal antibody production, animal adoptions from research facilities, staffing of the IACUC, protocol simplification, training of new IACUC



members, and occupational health issues.

EB '99 will be in Washington, DC. The ACEC encourages APS members to visit their Senators and Representatives while you are in Washington. Issues about funding research and animal based research are always hot topics. Be heard on the Hill, present your views! ♦

*C. Terrance Hawk, Chair*

### Awards Committee

The Awards Committee received 19 applications for the January 15, 1998, competition for the APS Postdoctoral Fellowship in Physiological Genomics. Each member of the Awards Committee reviewed all 19 applications, and the scores were tabulated and averaged to obtain a single score for each application. Prior to a formal review of the top applications, the Committee reviewed their scoring philosophies. As a

result, it was recommended that the three-page limit for the applicant's proposed research program and plans for the future be modified to allow for submission of a 250-word abstract, a three-page research plan that includes both text and graphics, and a one-page bibliography. The Committee felt that this revision in the application requirements will result in better applications and less confusion about what the applicant should submit. The Committee then reviewed and discussed the top six applications and recommended that two awards be made in 1998. The awardees for the 1998 Postdoctoral Fellows in Physiological Genomics are Christopher P. Regan, University of Virginia (Advisor: Gary K. Owens); and Daniel A. Shelly, University of Cincinnati (Advisor: Richard J. Paul).

In response to the February 15, 1998, deadline, the Awards Committee received only one application for a Research Career Enhancement Award, that of Meredith Bond, from The Cleveland Clinic, Cleveland, Ohio. Meredith Bond is proposing to attend an intensive hands-on two week Molecular Biology Course, called the "1998 Molecular Biology and PCR Summer Workshop," sponsored by New England Biolabs at Smith College. The course is being taken to enhance progress in Bond's research program which focuses on the area of downstream regulation of PKA-dependent substrate phosphorylation in the heart. Bond has requested \$3,600 for the course. The Committee reviewed the applica-





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tion, and based on the strong support given to the application by the Committee, the application was approved.

The Awards Committee met at a breakfast meeting at the Experimental Biology Meeting in San Francisco. A lively discussion of philosophy and reviewing procedures ensued. Moreover, the Committee felt that it could be more pro-active in seeking and recommending potential APS candidates to FASEB for their FASEB Excellence in Science Award. ❖

*Dale J. Benos, Chair*

### Careers in Physiology Committee

#### Career Opportunities in Physiology Symposium

At the Experimental Biology '98 meeting, the Career Opportunities in Physiology Committee sponsored a "Careers Symposium." The focus or theme for this year's symposium was on graduate student training. Approximately 80-100 individuals participated in the symposium and the wine and cheese reception that followed. A general overview on successfully approaching graduate student training was presented by the Committee chair. This was followed by the students being able to meet in a small-group setting with a diverse group of physiologists. The professionals present represented various types of employment, both in academia and the private sector. The symposium was well received. The small break-out sessions were found to be especially attractive, as they offered the students a unique opportunity to meet and talk informally with physiologists about both traditional and non-traditional career paths, job opportunities, etc. For next year's meeting this type of small group interaction will be incorporated as the major feature of the careers symposium.

#### New Directions

The Career Opportunities in Physiology Committee is in the process of considering some new initiatives. One of these is the possible establishment of an APS Summer Fellowship for Undergraduate Research, in order to expose and excite outstanding undergraduate students about a career in physiology. Conceptually, this program would offer a student a stipend to work in a physiology research laboratory over the summer, along with possible support for the student to attend the annual Experimental Biology meeting. This laboratory experience could be undertaken either at a university or in a

private industry setting.

Another project under consideration by the Committee is the development of a survey of APS members. The purpose of such a survey would be to identify the career-related issues and problems that physiologists, who are at various stages in their careers, are most concerned about. Such information could help the Committee focus its efforts and activities on matters deemed to be the most important to members of the society.

Work on the details and feasibility of both of these projects is currently underway. If these proposals are successfully developed and funded, implementation should occur in 1999. ❖

*Edward J. Zambraski, Chair*

### Committee on Committees

The Committee on Committees makes recommendations for committee appointments to Council from nominee lists provided by the membership.

During November and December, nominations are solicited from Council members, members of the Committee on Committees, committee chairs, section chairs, and members of the Association of Chairmen of Departments of Physiology, as well as from the general membership.

By January, the Committee on Committees receives a list of all nominees and their nomination forms.

By February, members of the Committee on Committees choose their slates of candidates and an alternate for each committee. Selection is based on qualifications for the particular committee appointment. Section affiliation, gender, and minority or junior investigator status are also given serious consideration.

In March, the APS office prepares a list of nominees ranked by the number of votes, and this is recirculated back to the Committee on Committees membership for further evaluation.

At the spring APS meeting, the Committee on Committees meets to select the final slate of candidates for committee vacancies.

At the summer Council meeting, the Committee on Committees chair presents the committee's report and recommendations concerning appointments for committees to





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Council. Council approves all appointments to committees for service starting in January of the following year.

In the summer or early fall, members are notified of their appointments to committees. ❖

*Gerald F. DiBona, Chair*

**Table 1. Committee on Committees Members**

Section	Name and Term Expiration
<b>Chair</b>	Celia Sladek (99)
<b>Incoming Chair</b>	Phyllis Wise (01)
<b>Cardiovascular</b>	Jim Bassingthwaighte (00)
<b>Cell &amp; General Physiology</b>	Marshall Montrose (01)
<b>Central Nervous System</b>	Beverly Bishop (99)
<b>Comparative Physiology</b>	Eldon Braun (00)
<b>Endocrinology &amp; Metabolism</b>	Mary Ruh (99)
<b>Environmental &amp; Exercise Physiology</b>	Ronald Terjung (00)
<b>Gastrointestinal</b>	Mrinalini Rao (00)
<b>Neural Control &amp; Autonomic Regulation</b>	William Talman (99)
<b>Renal</b>	William Arendshorst (99)
<b>Respiration</b>	Steven C. George (01)
<b>Teaching of Physiology</b>	Dee Silverthorn (01)
<b>Water &amp; Electrolyte Homeostasis</b>	Thomas Lohmeier (01)

**Table 2. Recommended New Committee Appointments**

Section Letter and Name	Number
A Cardiovascular	9
B Cell & General Physiology	4
C Comparative Physiology	2
D Endocrinology & Metabolism	2
E Environmental & Exercise Physiology	2
G Gastrointestinal	2
J Central Nervous System	1
K Neural Control and Autonomic Regulation	3
L Renal	6
M Respiration	4
N Teaching of Physiology	1
O Water & Electrolyte Homeostasis	7
U Undeclared/unknown	0
<b>Total</b>	<b>43</b>

31 male, 12 female

## Education Committee

The Education Committee has been heavily involved in numerous activities for science and health education at the K-12 level, for improving physiology education at the undergraduate, medical student and health career student levels; and for following up on physiology graduates at the PhD level. During 1997-1998, the Committee included a transition from the capable leadership of Francis L. Belloni to the enthusiastic leadership of Barbara E. Goodman. Specific activities sponsored, organized, and participated in by Committee members (who each have an assignment for the term) have been varied and have kept members busy both at Experimental Biology '98 and throughout the year.



In the area of continuing education for physiologists (particularly those teaching at the undergraduate level and outside of their research areas), the Education Committee sponsored a refresher course on renal physiology at EB '98 in San Francisco. There were about 150 people in attendance at the session, which was ably organized by Committee member Virginia Brooks and APS member Arthur Vander and included presentations by Jim Schafer, Bruce Koeppen, Frank Knox, and Art Vander and other exhibits, posters, and demonstrations. The proceedings of the refresher course will be published in *Advances in Physiology Education* in the fall issue. A refresher course in cardiovascular physiology is being organized for EB '99.

In the area of enhancing medical education, Committee member John Dietz is originating and organizing an archive of teaching resources that will include case histories, test questions, figures, lectures, animations, and links to resources from APS members. The archive will be available on the APS web site. All APS members will be encouraged to contribute to the archive, the goal of which is to reduce the extra time required for the development of new courses by every new instructor. In addition, some old laboratory activities for students published in the 1950s and revised by the Education Committee in 1967 will be updated for relevance and safety and will be available on the APS web site. A new award, the Teaching Career Enhancement Award approved by the APS Council in 1997, is now available to APS members who need assistance to pursue goals for improving their teaching skills.

In the area of PhD education, the Education Office and Committee member George Blevins have been working on the sixth edition of "Institutions Awarding Academic Degrees With a Major in Physiology" to be available soon. The Edu-

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cation Office is also collecting data for the second annual survey of PhD physiology graduates. From the results of the first year of the survey, it is gratifying to know that only 2% of PhD graduates were unemployed one year after obtaining their degrees.

The annual workshop on physiology for life science teachers and students (inviting local high school teachers and some of their students to EB) organized by Committee member Barb Goodman and the Education Office was held in San Francisco on April 21, 1998. The keynote address was given by Emily Holton of NASA Ames Research Facility on the effects of gravity on biology. She presented exciting information about many of the experiments using animals and plants that have been conducted both in space and upon return to earth. Teachers learned about new curricula designed by some of the APS summer research teachers and students participated in inquiry-based activities from the local outreach team curriculum on neural networks. APS members Subah Packer, Norm Weisbrodt, Rob Carroll, and Nancy Pelaez led the activities with the high school students. Numerous other APS members volunteered to be luncheon hosts and tour guides for small groups of teachers and students. The evaluations from the teachers and students stressed that these small group meetings with a "real" physiologist were the most exciting and beneficial component of the day's activities.

The Frontiers in Physiology program that originated under a grant funded by the National Science Foundation ran from 1994 to 1998. A New Frontiers in Physiology has been funded from 1997 to 2000 with a National Institutes of Health Science Education Partnership Award and will continue the highly successful Summer Research Teacher (SRT) and the Local Outreach Team components. The SRT component provides for K-12 teachers to work in the laboratory of an APS member. Each SRT also attends a weeklong summer institute in which they receive more in-depth content exposure; practice specialized teaching techniques; and develop specific, hands-on, inquiry-based science activities for use in their classrooms. Frontiers in Physiology also developed two model in-service workshops for its Local Outreach Teams (LOT), in which APS members and educators offer curricular workshops on inquiry-based approaches to neural networks and physiology of fitness for middle and high school teachers to use with their students. Many of the activities developed in Frontiers in Physiology are now available at the APS web site. The American Physiological Society has reached 930 teachers and their 336,900 students from 1990-1998 via its Summer Research Teacher, Local Outreach Team, and Experimental Biology activities. In addition, 580 APS members have volunteered to be involved in these kinds of outreach

activities and the 140 APS members who have participated in Frontiers in Physiology since 1995 have provided 40% of the funds (total \$333,040) needed to provide these programs at their sites.

Other similar education programs that have involved APS members throughout the year include "Explorations in Biomedicine - Engaging Native Americans in Research" for Montana teachers and "Physiology Insights - Enhancement Program for Undergraduate Faculty." Explorations offered a workshop on inquiry-based science teaching in Billings, MT in September 1997 with the assistance of APS members Norm Weisbrodt, Rob Carroll, Barb Goodman, Margaret Sullivan, Diana Kunze, and Alice Villalobos and LOT/SRT teachers Sally Schempp and Lisa Bidelsbach. Another workshop on "Teaching Physiology Low Tech to High Tech" will be offered in Montana in September 1998. Insights provides opportunities for junior college and undergraduate college faculty without extensive research experience to participate in a summer research opportunity in the laboratory of an APS member.

The Education Office has an exciting web site with numerous resources for all levels of education. In addition, our resource material has an excellent reputation among science educators and is requested by large numbers of people from various schools throughout the country. For example, the Education Office has distributed 34,000 copies of the comic book *The Science of Life: Physiology Research in Action* including individual orders to 556 people (mostly APS members) and has distributed 4,000 copies of information about careers in physiology this past year. The Education Office currently has support totalling over \$3 million from six NIH or NSF grants to fund the programs of the Education Committee. Recently, the Education Committee began a collaboration with the Animal Care and Experimentation Committee on designing and distributing educational information on the use of animals in research. Watch for EB '99 workshops on outreach activities for K-5 students and teaching critical thinking skills in physiology (the Teaching Section), and for future opportunities for more involvement of physiologists in the nation's comprehensive health education.

Committee members are enthusiastically working on ways to improve both the knowledge of and teaching in physiology at all educational levels in this country. The Education Committee is also committed to finding effective ways to serve the education needs of the members of the Society. Therefore, feedback on our programs and/or ideas for new programs and activities are always welcome. ❖

*Barbara E. Goodman, Chair*

# Committee Reports

## Finance Committee

During the Spring meeting of Council, the Finance Committee Chair reported that the Society continues to be financially sound and enjoys substantial financial growth through prudent investment practices. The Society uses up to 4% of the value of its investments annually as operating income. Only that amount required to balance the budget is withdrawn, while the remainder continues in actively managed investments accounts.



The Chair reviewed the 1997 budget versus actual income and expenses and presented the modified 1998 budget based on the 1997 actual figures. The Society employs a consolidated operating budget to manage overall operations. The consolidated budget is comprised of the individual budgets for the various cost centers, including publications, membership services, education, public affairs, marketing, executive and business offices. For 1997, the year ended with income of \$12,493,356 (including \$449,280 used from the allocation of 4% of the managed accounts to balance the budget) and expenses of \$11,538,203 plus G&A expenses of \$955,153 for total expenses of \$12,493,356. (G&A expenses are based on the ratio of the business/executive office expenses to total salary expenses.)

The 1998 budget approved by Council is a balanced budget of \$12,952,050. To achieve a balanced budget, \$721,756 from the managed accounts will be needed. This represents 68% of the 4% allocation, or \$1,068,236, available from the investment accounts. Council reviewed the Publications and Finance Committees' recommendations for 1999 journal subscription prices. Previous actions by Council recommended a target of 10% profitability for overall publication operations and journal prices are set with this target in mind. It is clear, however, that much uncertainty exists regarding the profitability of scientific journal publication, largely because of the move to electronic publication. The Finance Committee recommended that the 10% profitability be approached incrementally with the clear understanding that uncertainties within the scientific publication industry may delay achievement of the profitability goal. It should also be pointed out that journal publication is the major source of revenue for the Society and is key to our financial well being. Members are charged at a reduced rate and most of the profitability is derived from sale of subscriptions to institutions.

The Finance Committee recommended that member subscription prices be held at the 1998 levels and nonmember and institutional prices be increased as follows: consolidated *American Journal of Physiology* = 20.0%, *Journal of Neurophysiology* = 20.0%, *Journal of Applied Physiology* = 14.0%, *Physiological Reviews* = 10.0%, *AJP: Cell Physiology* = 15.0%, *AJP: Endocrinology and Metabolism* = 15.0%, *AJP: Gastrointestinal Physiology* = 15.0%, *AJP: Lung Cellular and Molecular Physiology* = 15.0%, *AJP: Heart and Circulatory Physiology* = 15.0%, *AJP: Regulatory, Integrative and Comparative Physiology* = 15.0%, *AJP: Renal Physiology* = 15.0%, *Advances in Physiological Education* = 10.0%, *News in Physiological Sciences* = 10.0%, and *The Physiologist* = 10.0%.

It was also recommended that the Society offer an online-only version of the APS journals to institutional subscribers to facilitate joint marketing with other publishers working with HighWire Press, our electronic publisher. The wholesale 1999 online journal prices were set at 80% of the domestic institutional prices.

The Committee recommended to Council that the various programs of the Society, including those within membership, public affairs, education, and marketing be specifically evaluated by Council and that Council declare the value to the Society of each of these programs.

The Committee also recommended to Council that the income from the managed accounts allocated to general operations of the Society be accounted for separately to provide better tracking of expenditure of these funds.

The Finance Committee reviews the performance of the four groups managing our investment accounts through the consultative services of Smith Barney. As of December 31, 1997, the accounts had the following market values: Operating Reserve Investment Account I = \$7,456,806, Operating Reserve Investment Account II = \$7,898,226, Publications Contingency and Reserve Account = \$9,002,384, Second Century Program Fund = \$2,248,282, Caroline tum Suden Account = \$620,712, IUUPS Account = \$408,847, Perkins Memorial Fund = \$303,424, and Giles F. Filley Memorial Fund = \$915,228. Investment performance for the entire fund averaged 22.47% for the year ended December 31, 1997. The equity portion was 34.82% and the fixed income portion was 9.09%. The total fund market value was \$29,166,667.

The Finance Committee received the annual audit performed by Coopers and Lybrand, LLP. In the opinion of the audit firm, "the financial statements referred to below present fairly, in all material respects, the financial position of the Society as of December 31, 1997 and the changes in its net assets and cash flows for the year then ended, in conformity with generally accepted accounting principles." ♦

Edward H. Blaine, Chair

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### APS Statement of Activities for the year ended December 31, 1997

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
<b>Operating Revenue:</b>				
Subscriptions	\$ 7,197,516	\$	\$	\$ 7,197,516
Back single issues reprints	1,147,165			1,147,165
Advertising and page charges	1,961,845			1,961,845
Sale of handbooks and royalties	110,290			110,290
Sale of monographs and special publications				
Membership dues	300,421			300,421
Voluntary contribution and assessment	94,324	182,825		277,149
Conferences and meetings	342,288			342,288
Symposium and program support				
Grants and contracts	758,903			758,903
Interest and dividends	1,095,979	33,611		1,129,590
Other income	42,197			42,197
Net assets released from restrictions	<u>152,799</u>	<u>(152,799)</u>		
Total operating revenue	<u>\$13,203,727</u>	<u>\$ 63,637</u>		<u>\$13,267,364</u>
<b>Operating Expenses:</b>				
Publication	10,326,346			10,326,346
Society general	1,162,632			1,162,632
Second century	22,864			22,864
Education	297,673			297,673
Marketing	148,900			148,900
Council designated	<u>1,001,744</u>			<u>1,001,744</u>
Total expenses	<u>12,960,159</u>			<u>12,960,159</u>
Operating Change in net assets	243,568	63,637		307,205
Net realized gains on investments	3,348,466			3,348,466
Net unrealized gains on investments	<u>1,322,090</u>			<u>1,322,090</u>
Change in net assets	4,914,124	63,637		4,977,761
Net assets, beginning of year	<u>24,559,665</u>	<u>773,745</u>	<u>12,500</u>	<u>25,345,910</u>
Net assets, end of year	<u>\$29,473,789</u>	<u>\$ 837,382</u>	<u>\$ 12,500</u>	<u>\$30,323,671</u>



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### APS Statement of Financial Position

as of December 31, 1997

#### ASSETS

Cash and cash equivalents	\$ 1,330,586
Investments (net)	33,450,860
Accounts receivable	1,494,325
Accrued interest receivable	200,311
Advances to section editors	180,743
Prepaid expenses	56,360
Furniture, fixtures, and equipment	<u>136,743</u>
Total assets	<u>\$36,849,928</u>

#### LIABILITIES

Accounts payable and accrued expenses	\$ 989,071
Amount held for custodial funds	30,950
Unearned revenue	
Subscriptions	5,258,331
Dues and other	<u>247,905</u>
Total liabilities	<u>\$ 6,526,257</u>

#### NET ASSETS

Unrestricted	\$29,473,789
Temporarily restricted	837,382
Permanently restricted	<u>12,500</u>
Total net assets	<u>30,323,671</u>
<b>Total liabilities and net assets</b>	<b><u>\$36,849,928</u></b>

### International Physiology Committee

The International Physiology Committee reviewed the preliminary report of SatelLife, analyzing the performance of APSsat during its first five months of operation. The results are encouraging, indeed. Forty-eight users from 22 countries had accessed the service. The Committee was impressed by the thoroughness of the report and the demonstration that SatelLife has excellent command of this new instrument for providing international access to APS databases. The Committee was particularly encouraged by the demonstrated ability of SatelLife to monitor the usage of APSsat by the international scientific community.



The Committee recommends that, providing the utilization of APSsat during the coming year continues apace, Council explores with SatelLife the extension of APSsat to the dissemination of full text, rather than just abstracts, of all APS on-line journals using SatelLife technology.

The Committee reviewed a series of suggestions for increasing the interactions between the APS and the Chilean Society for Physiological Sciences from its President, Mauricio Boric. Most of the requests can be accommodated by current APS policies and procedures.

The Committee will explore the possibility of sponsoring workshops on subjects of interest to sister physiological societies in the Americas at the time of their annual meetings. It suggests such sponsorships in principle and looks forward to working with Latin American colleagues to formulate detailed plans in this regard. ♦

*Ernst Knobil, Chair*

## Committee Reports

### Long-Range Planning Committee

The Long-Range Planning Committee (LRPC) met in San Francisco during EB '98.

Prior to the annual meeting, the Chair had solicited comments from past-presidents and members of Council. In addition, extensive comments on new developments in governance and meeting organization were made by Martin Frank and Allen Cowley, and these provided great substance to the discussions. Based on this information, our discussion led to the realization that the key issue for the LRPC is the future role of the Committee. The new role to be played by sections in Society business calls into question the structure of the long-range planning process, and of the Committee itself.

Historically, the major function of the LRPC has been to generate a white paper every six years or so. However, on reflection, it became apparent that major issues influencing our society (e.g., meetings, membership, and identity of the discipline of physiology) tend to remain essentially the same over rather long periods. Thus, the various reports of the LRPC tend to have similar foci.

Within the context of the broad categories of concern mentioned, innumerable specific problems need to be addressed. However, those specific targets are established largely as an outgrowth of the special interests of each incoming president or as outgrowths of Council responses to problems of an immediate nature rather than by the LRPC. Thus, one is left, on the one hand, with long-range planning proposals that are rather vague and general, and, on the other hand, with plans made by Council and the Executive Cabinet that may be too focused on immediate solutions to pressing problems, and overlook longer term issues. In view of the foregoing, we feel that a re-evaluation of the planning process is appropriate and a consideration of the charge to the LRPC.

The Committee considered two alternative pathways. First, Council might dissolve the LRPC and devolve long-range planning functions to Council and the sections. Such an action should, however, involve a plan for regular retreats of Council in a long-range planning mode. In this scenario, long-range planning would be specifically recognized as a special function of Council that would be carried out at meetings where no other business is discussed. Appropriate "blue ribbon" committees could be identified and appointed prior to these meetings as needed. Either these special committees could have preliminary discussions in advance or they could



meet with Council at the long-range planning meeting. The advantage of this approach is that those ultimately responsible for long-range planning (Council and Executive Cabinet) would be actively involved in formation of the plan. The efficiency would be high. The disadvantage of this plan is that it would shut off a potential flow of new ideas and hopefully more deliberative comments from members of the LRPC.

A second plan would give the LRPC a more emphatic charge to formulate long-range plans and to present specific proposals to Council. Council would refer appropriate problems to the LRPC for deliberation and recommendations. If this model were implemented, we recommend that the LRPC should be charged with establishing the agenda for the long-range planning retreats. This model has the advantage of asking people who are less compelled by the immediacy of day-to-day activities to contemplate solutions to problems with a long time line. We believe that this approach could lead to a more contemplative retreat and perhaps to more thoughtful solutions to complex problems.

The disadvantage of the preceding scenario is that many practical issues would limit "blue sky" proposals by the LRPC, and these would be known only to Council and the Executive Cabinet. As a result, the LRPC would likely make mistakes out of ignorance of specific issues under consideration by Council. Problems of this sort could be minimized by making membership on the LRPC more closely tied to current or immediately past-presidents and Council members.

In summary, the LRPC feels that the charge to the Committee requires reconsideration and a new focus. The Committee would like to put before Council the two proposals for consideration. 1) LRPC should be dissolved and all of its duties devolve to Council. This should be associated with a new, formal plan for frequent long-range planning retreats of Council. 2) LRPC should be given charges that will involve it more integrally in the day-to-day life of Council and the Section Advisory Committee. The LRPC should interact frequently with Council and the Executive Cabinet and in assisting in the solution of complex problems on a continuing basis. As part of this plan, the LRPC should be charged with planning the agenda for regular retreats of the Society. ♦

*Brian R. Duling, Chair*

### Membership Committee

The Membership Committee has voted in 322 new members during the past year, which includes three rounds of voting (summer 1997, fall 1997, and spring 1998). Twenty-eight percent were corresponding members. This is similar to the previous two years showing that approximately 30% of new members are corresponding members. Of the 233 new regu-

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lar members, 73% hold a PhD, 16% hold an MD degree, and 7% hold both MD and PhD degrees. The remaining applicants hold other degrees (i.e., DVM, MS, EdD). Fourteen percent, 16%, and 31% are full, associate, and assistant professors, respectively, and 12% are postdoctoral fellows.

The Membership Committee met at the Experimental Biology '98 meeting in San Francisco. President Navar asked the Committee to consider a policy change to allow corresponding members to have the same rights as regular members and to refer to all members under the category of regular membership. The Membership Committee voted unanimously that corresponding members should have the same rights and privileges as regular members. The decision was based on:

1) An examination of the rights of foreign-born members in nine other FASEB societies showing that they had the same benefits and privileges as American members. Hence APS is currently the only society that does not have the same rights for all members.

2) Committee members have been told by their European colleagues that they would not join APS because corresponding members were not given the same privileges as regular members, such as voting rights and the right to serve on a committee or Council. This is supported by the limited number of European corresponding membership applications that the Committee has seen during past years. Most of the corresponding membership applications come from Asian countries.

The Committee members suggested that by eliminating the category of corresponding members and including all members in one category (regular), there will be more interest by qualified and interested candidates in all countries. The proximity of Europe to the US should lead to greater attendance to Experimental Biology meetings and abstract submissions. This proposed new policy will be only improve equality among our qualified applicants, but also help achieve our goal of increasing membership to 10,000 in the year 2000. If the Council agrees to the above proposal, the Membership Committee believes that the Marketing Department should advertise this change in policy in other countries to enhance the number of new membership applicants. ♦

*Sue Amy Shapses, Chair*



### Perkins Memorial Fund Committee

The Perkins Memorial Fund Committee supervises maintenance of the Perkins Memorial Fund and reviews applications and selects recipients of the award, which enables visiting foreign scientists to also bring their families to the US to enhance their experience.

For the June 1997 deadline, the Committee received one application for its consideration. The application was rejected by the Committee because the length of stay of the candidate and family was not of sufficient duration to warrant the award.

For the December 1997 deadline, the Committee considered one application for the Perkins Memorial Fellowship Award and recommended its approval. Masahiko Kato received the award for September 1997 - September 1999 in the laboratory of Virend K. Somers of the University of Iowa College of Medicine.

Only \$3,000 of the \$12,000 available for the 1997 awards was used. Members are urged to nominate for the award foreign scientists who are visiting their laboratories for an extended time with their families. ♦

*Aviad Haramati, Chair*



### Porter Physiology Development Committee

The Porter Physiology Development Committee at its meeting during EB'98, considered a number of ways to improve the application process for minority applicants: informational meetings for mentors of minority students at the EB meeting, contact with minority affairs committee at major universities, provide information to physiology chairs at their meeting, and increase the number of minority applications through the key element of human contact.

It was agreed to limit the number of pages for the progress report for the students. Also, it was agreed to fund



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predoctoral students to the limit of available funds.

It was also noted that all copies of the descriptive brochures of the Porter Program had been depleted. It was agreed that the brochure should be revised and brought up to date for public distribution.

We are happy to welcome J. Andrew Daubenspeck, Jeffrey L. Garvin and Marian R. Walters as new members to the Porter Physiology Development Committee. At the same time, we extend our sincere gratitude to Reinier Beeuwkes, R. Clinton Webb and J. Michael Overton, whose terms expired in December 1997 and whose contributions to the work of the Committee were significant and constructive.

We are pleased to report that again the Society contributed \$25,000 in 1997 in support of the program. The Society's contribution was increased to \$40,000 in 1998. This level of commitment by the membership continues as an important factor in stabilizing the training program, and also for cultivating potential external donor interest.

We extend our thanks to the Procter and Gamble Company for their generous contribution of \$15,000 to the Society, of which \$5,500 is earmarked for the Porter Program.

We also express our sincere appreciation to our recent donor, the Merck Research Laboratories, for its initial check of \$20,000 as the first payment in a five-year commitment to assist in the expansion of the Porter Physiology Development Program and other education activities of the Society.

The William Townsend Porter Foundation again voted to distribute an additional amount to the Society on the basis of a \$1.00 grant for each \$2.00 raised by the Society from March 1, 1997 to February 28, 1998 from individual members and corporate donors over and above the \$50,000 already committed by the Foundation. The upper cap on the additional grant from the Foundation is \$20,000. We express our genuine appreciation to the Foundation for their generous support and continued commitment to the program.

Jason Hokama of the University of Arizona is the Merck Porter Fellow. His predoctoral fellowship award is for the period September 1, 1997 through August 31, 1998, and was made possible through the generosity of the Merck Laboratories, Merck & Co., Inc.

The Porter Program Announcement and Application was distributed to all departments of physiology and MARC program directors in November 1997 with a deadline date of January 15, 1997 for new and continuation applications. In response, the Committee has received five new predoctoral applications for review. Three continuation/renewal requests were also received from current predoctoral fellows.

### 1998-1999 PORTER FELLOWS

Final actions were taken on these requests during the EB meeting in San Francisco. Fellowship awards were granted to the following based on the rank of their priority scores and on available funds:

- 1) Rayna Jo Gonzalez, University of New Mexico (renewal)
- 2) Ignacio T. Moore, Oregon State University (renewal)
- 3) Kameha Kidd, University of Arizona (new)
- 4) Antonio Carrasco, Mayo Clinic/Mayo Graduate School (new)
- 5) Ekema G. Mbella, Wright State University (new)
- 6) Matthew Walker III, Tulane University (renewal)
- 7) Stanley P. Carlyle, Howard University (new)
- 8) Cheryl P. Rust, Howard University (new)

In the interim since the last meeting of the Porter Physiology Committee during EB '97, we have maintained the support of six predoctoral Porter fellows and one postdoctoral fellow. A summary progress statement was received from each of the fellows/mentors as of January 1998.

### 1997-1998 PORTER FELLOWS

Four predoctoral fellowships were initiated or continued in 1997-1998:

- 1) Rayna Jo Gonzalez, Department of Cell Biology and Physiology, University of New Mexico School of Medicine. Advisor: Nancy Kanagy
- 2) Jason J. Hokama, University Of Arizona Health Sciences Center. Advisor: Paul F. McDonagh
- 3) Ignacio T. Moore, Oregon State University. Advisor: Robert T. Mason.
- 4) Trini Vargas, Department of Physiology, University of North Dakota School of Medicine and Health Sciences. Advisor: Willis K. Samson

One postdoctoral fellowship was continued in 1997-1998: Corigan Smothers, Virginia Commonwealth University. Mentor: John Woodward

The Committee members again served as the review panel for applicants to the NIDDK Travel Fellowships for Minority Physiologists to attend the Fall Conference and the meetings of Experimental Biology 1998. A total of 67 travel applications were received and rated. ♦

*Eleanor L. Ison-Franklin, Chair*

## Program Committee

EB '98 was held in San Francisco, CA, April 18 through April 22, 1998. Scientific sessions and poster sessions were well attended. Scheduling the presentation of posters unopposed by oral sessions and situating the posters among the exhibits and was thought to be a success by both meeting attendees and exhibitors alike. Also new this year were "On-The-Floor" poster discussion sessions established as a means to cluster posters and foster active discussion around coordinated topics. This new poster discussion format was generally



## Committee Reports

thought to be a good idea with the caveat that at future meetings these sessions should be situated in a more “acoustically isolated” setting to maximize their success.

There were six principal programming societies at this year's meeting: APS, American Society for Pharmacology and Experimental Therapeutics (ASPET), American Society for Investigative Pathology (ASIP), American Society for Nutritional Sciences (ASNS), American Association of Immunologists (AAI), and the American Association of Anatomists (AAA). In addition, four societies participated as APS guest societies: Microcirculatory Society, Biomedical Engineering Society (BMES), Society for Experimental Biology and Medicine (SEBM) and Chinese Physiological Society (CPS, Taiwan). The attendance at EB '98 was quite good. There were 10,510 registered scientists, 1,749 exhibitors, as well as 968 “other” registrants, for a total attendance of 13,227 persons. Attendance remains a major concern for EB meetings, not only because it reflects the degree of interest by scientists, but also because exhibitors, which are the major source of revenue from these meetings, are encouraged by good attendance.

EB '98 was organized, in part, around eight scientific themes: Cardiovascular Biology, Cell Injury, Inflammation and Repair, Epithelial Cell Biology, Cellular Growth and Development, Metabolic and Disease Processes, Neurobiology, Respiratory Biology, and Signal Transduction and Gene Regulation. As in the previous year, certain symposia, workshops, tutorials, and other forms of presentation that had been selected by the program committees of each of the sponsoring societies were placed into the appropriate themes, and each theme ran throughout the week or part thereof, usually in the same hall(s). This was the sixth year using the thematic format. Abstracts that had been submitted for specific themes were accommodated under the themes as slide sessions, minisymposia, or posters, while the remaining abstracts were organized into similar forms of presentation under the auspices of each of the sponsoring societies.

EB '98 marked the third Physiology InFocus program. Organized by Francis Collins and Allen Cowley, Jr., the program topic “Genomics to Physiology and Beyond” included four half-day symposia scheduled throughout the meeting. Attendance was good, and the quality of the sessions was outstanding. Plans have been made to ensure that Physiology InFocus will be a highlight at EB '99, both scientifically and in premeeting publicity.



EB '98 also marked the third installment of Hot Topics symposia. After reviewing Hot Topic proposals, three Hot Topic symposia were selected for EB '98: “Transgenic Approaches to Gastrointestinal Function,” organized by L.C. Samuelson and J.A. Williams; “Integrated Cardiovascular Physiology in the Mouse: Applications to Transgenic and Gene Targeted Mice,” organized by C.D. Sigmund and M.I. Oliverio; and “The Role of Potassium Channels in Hypertension and Conditions of Elevated Vascular Tone,” organized by S.L. Archer and N. Rusch. Attendance at these sessions were outstanding and the topics fit well with the Physiology InFocus theme organized by APS President, Allen Cowley, Jr.

Out of a total of 6,525 volunteered abstracts submitted, 2,518 (39%) came through APS. Of the 6,467 total abstracts programmed, 2,966 (46%) were incorporated into themes. The remaining 3,501 (54%) were presented under the auspices of the sponsoring societies.

The Distinguished Lectureships were initiated by Council at the EB '94 meeting. Each of the twelve sections of the APS was given the resources to sponsor one Distinguished Lectureship to be named after an eminent physiologist and to be repeated annually at the EB meetings. By and large, these lectures were a tremendous success. As envisioned by the APS Council, they served as an impetus for each section to build an interesting program around the Distinguished Lecturer, not only through the lecture itself but also through special sessions. Sections are urged to create mini-symposia based on the topic of the distinguished lecture, tutorial and special luncheons or dinners that feature the Distinguished Lecturer and are geared especially to interactions of students and fellows with the Distinguished Lecturer.

### *Experimental Biology '99*

The EB '99 meeting is scheduled for April 17-21, 1999 in Washington, DC. The principal programming societies for this meeting include APS, ASPET, ASIP, ASNS, AAI and AAA. APS guest societies will include BMES, SEBM, the Microcirculatory Society and the American Federation for Medical Research (AFMR). The ASIP will serve as the host for North American Vascular Biology Organization. The eight themes presented at the EB '98 meeting will be continued at EB '99.

The Society's preparation for the Experimental Biology '99 meeting did not follow a traditional path thanks to the recommendations of the Council and the Section Advisory Committee (SAC). In October 1997, at a joint meeting of Council and SAC in Park City, Utah, recommendations were made that would allow for the sections to have more responsibility for developing the scientific program. The intention of these changes was to empower the membership and allow sections the opportunity to create meetings within the EB meeting highlighting the best and hottest science in their area.

## Committee Reports

As a result of these recommendations, each section created a Section Program Committee (SPC) responsible for developing a designated number of symposia and "*Featured Topics*." The Chairs of the SPCs, together with the Program Committee, comprise a Joint Program Committee (JPC) charged with the overall quality of the APS program, seeding cross-cutting interdisciplinary "InFoci" elements of the APS/EB meeting, seeding oral sessions (featured topics), clustering and coordination of abstracts for the poster sessions and planning "inter-Society" programming. The recommended timeline for developing the scientific program was modified to maximize inclusion of late-breaking science at the EB meeting.

The development of EB '99 represents a transition year for the implementation of these recommendations. The JPC met in January to schedule abstracts for the EB '98 meeting and developed preliminary plans for symposia and featured topics for EB '99. These preliminary plans were distributed to the SPCs responsible for soliciting proposals. The JPC met on April 18 to review the symposia proposed by the sections to ensure minimum overlap or duplication and to suggest areas of potential coordination. The Committee also reviewed the symposia sponsored by the various APS Guest Societies. The Committee's work was greatly facilitated through the efforts of Linda Allen who collected and coordinated the distribution of all of the solicited and unsolicited symposia proposals. On June 5, the JPC met again and fine-tuned the recommendations of the SPCs and scheduled the sessions for presentation at EB '99: Twenty eight symposia, one refresher course, and one point/counterpoint were approved. Nine symposia sponsored by guest societies (2 BMES, 1 SEBM, 1 Microcirculatory Society, and 5 AFMR) also were approved.

In addition to these selections (which ultimately will appear either under themes or as part of the APS sponsored program), there will be sessions based on submitted abstracts. These sessions, referred to earlier as featured topics will include an introductory lecture and/or summarizing talk and volunteered abstracts submitted in response to the listing of the featured topic in the topic category list. It is hoped that these sessions will be more focused scientifically and prove to be a highlight of the meeting. A total of 40 featured topics and two poster discussion sessions were approved during the JPC meeting.

All volunteered abstracts will be presented in poster sessions at EB '99. As indicated earlier, a number will also be scheduled as oral presentations in the featured topics. The dual presentation of the featured topic abstracts in oral and poster sessions will provide an opportunity for more in-depth discussion and review of the science.

As a result of recommendations made by the EB Program Committee, consisting of representatives of the six principal programming societies, the **abstract deadline for**

**EB '99** has been moved to **November 16th**. In order to encourage multiple submissions, individuals can be first authors on more than one submitted abstract. Authors can continue to submit their abstracts using the forms found in the Call for Abstracts. However, they will also be encouraged to submit their abstracts electronically through the EB '99 Web site (<http://www.faseb.org/eb99>). By the year 2000, the EB Program Committee hopes to see all meeting abstracts submitted electronically. Authors are encouraged to prepare their abstracts carefully because revised abstracts will need to be accompanied by a \$30 abstract revision fee.

There is continuing awareness of the importance of including women and members of underrepresented minorities as well as junior scientists on the panels of invited speakers. By and large, the proposals that were reviewed this year showed this awareness. The SPCs are continually reminded of this matter in considering participants for symposia proposals.

The 1999 Physiology InFocus program will include four sessions and is entitled "Physiological Genomics and Molecular Medicine" organized by Gabriel Navar and Victor Dzau. In addition, there will be 11 Distinguished Lectureships and the Bowditch and Cannon Lectureships. The Society will also hold the first annual Walter C. Randall Lectureship in Biomedical Ethics which will be presented by Frank Young, the former Commissioner of the Food and Drug Administration.

The issue of which societies are participating in the Experimental Biology meeting continues to be an issue that Council discusses on a regular basis. While six FASEB member societies participated in the EB '98 and EB '99 meetings, only four FASEB member societies will meet in San Diego at EB 2000. Both ASPET and AAI will be having meetings separate from the EB meeting. Those societies will return in 2001 and will be joined by the American Society for Biochemistry and Molecular Biology (ASBMB) in 2001 and 2002. While many of our members would like to see the American Society for Cell Biology (ASCB) and the Biophysical Society (BS) participating in the EB meeting, the success of those societies own meetings makes their participation unlikely.

### **APS Conferences**

By and large, the APS Conference program, which was initiated in 1991, has been very successful and is continuing to improve. The Society is striving for a goal in which APS Conferences will be so prestigious that they will become very competitive. That point is nearly at hand, but in the meantime the Society must still solicit proposals.

During the April 1998 meeting of the Joint Program Committee the following APS Conferences were approved for presentation in the year 2000: "Physiology of the Baroreceptor and Cardiopulmonary Reflexes: Sensory Mechanisms,

## Committee Reports

Central Integration, and Reflex Function,” organized by Mark Chapleau and “The Integrative Biology of Exercise,” organized by Peter Wagner.

The Society has the following Conferences scheduled in 1998: **September 16-19, 1998**, Augusta, GA. “Endothelial Regulation of Vascular Tone: Molecular to Integrative Physiology,” organized by David Pollock.

**December 5-9, 1998**, San Antonio, TX. “The Paraventricular Nucleus of the Hypothalamus: A Crossroads of Integrative Physiology,” organized by J.R. Haywood.

APS Conferences approved for presentation in 1999 include:

**September 22-26, 1999**, Snowmass, CO. “Biology of K Channels: From Molecules to Disease,” organized by Steven Hebert and Gerhard Geibisch.

**October 19-22, 1999**, Ft. Lauderdale, FL. “Determinants of Vigilance: Interaction Between the Sleep and Circadian Systems,” organized by Allen Pack. ❖

*Judith A. Neubauer, Chair*

### Public Affairs Committee

The Public Affairs Committee advises the APS Council on policy issues that influence the conduct of science so that the Society can act on behalf of physiologists. APS addresses some issues such as research funding and indirect costs in concert with FASEB, which provides us with a stronger platform due to the large number of scientists FASEB represents. During the past year, there were several recurring themes that remained on the Committee’s agenda, and some new topics emerged.



#### Funding

The past year was one of optimism for research funding. The NIH budget saw a solid 7.1% increase to \$13.648 billion. The NSF and the VA research programs received increases of 4.7% (total: \$2.456 billion) and 3.8% (total: \$272 million), respectively, while the small peer-reviewed competitive grants program in NASA’s life sciences division remained stagnant. The FASEB Consensus Conference on FY 1999 funding that was held last December, recommended increases for next year of 15% for NIH, 10% for NSF, 10.3% for VA medical research, and 100% for NASA’s \$50 million Life Sciences Division Research and Analysis program.

With a prosperous economy, some members of Congress set their sights even higher and suggested a doubling of the NIH budget in the next five years. Given the enthusiastic climate, FASEB and other groups developed position papers on how to spend major increases. APS participated in a FASEB-sponsored workshop in March that developed a document called “Molecular Medicine 2020,” which offered a vision of how increased investment at NIH will contribute to improved human health. Representatives of FASEB and other “stakeholder” organizations such as the Association of American Medical Colleges, American Medical Association, Association of American Universities, Howard Hughes Medical Institute, National Health Council, and Funding First also developed a set of twelve principles for how to invest new funds to accelerate the pace of discovery at the NIH. As time has passed and reality has taken hold, there is less talk about a doubling of the NIH budget. However, there still appears to be very strong support for another substantial increase this year. The future of NSF, VA, and NASA is less clear.

#### Animal Research Facility Cost Allocation

For several years, APS and FASEB have been trying to establish an equitable policy concerning how the costs of animal research are divided between direct and indirect costs. The APS and FASEB position is that direct costs should include the purchase cost of animals, per diems to sustain them, and any costs related to procedures performed on the animal. Other costs such as the physical costs and maintenance of the facility, administrative support, regulatory compliance, etc. should be covered by indirect costs. The rationale for this policy is that Animal Research Facilities are an extension of research laboratory space and should be treated as other laboratories are treated. However, the Office of Management and Budget’s current interpretation of its Circular A21 considers Animal Research Facilities as “specialized centers” (along with wind tunnels and particle accelerators) which means that all costs must be charged off directly. If fully implemented, this interpretation could have an enormous impact on per diems: direct costs charged to grants for animal research could increase twofold.

Last month the National Academy of Science’s Institute of Laboratory Animal Research released a report on this issue that supported the APS and FASEB position. This provided an opportunity to reopen the issue for discussion with OMB, and both APS and FASEB are actively engaged in this effort.

#### Public Education

The Committee has made public education about science a major target for future activities. Two audiences have been selected: Congress and the general public. Since EB ‘99 will be in Washington, DC, the Committee has decided to develop a program to encourage physiologists to establish contact with their Senators and Representatives. Discussion has cen-



## Committee Reports

tered on how to identify scientists willing to participate, what materials to provide them, and how to motivate them to action.

The Committee plans to collaborate with the Animal Care and Experimentation Committee to develop a program tentatively called a "A Call to Activism." This program will include a Symposium at EB '99 that will be designed to overcome the inertia that keeps physiologists from contacting their elected representatives in Congress. The 500 participants in the APS NetAlert network will be the initial group we will try to recruit. The Committee also proposes an internal advertising campaign directed to all Society members to encourage them to communicate with Congress and specifically to arrange visits with their elected representatives during EB '99. "How to Kits" will be developed to provide the step-by-step guidance for how to make appointments with Congressional offices. The kits will also include "Speaking Points" consisting of current issues relevant to biomedical research that Congress faces and recent advances in physiology that illustrate the importance of research. For the latter, the Committee is working with the Section Advisory Committee to generate a list of the major recent findings in each area of physiology. Plans also call for arranging visits by APS members to selected Senators and Representatives who have been or have the potential to become supporters of biomedical research.

### AAAS Mass Media Fellowship

Last year Council approved APS funding of a AAAS Mass Media Fellow to place an advanced student of the sciences in a media outlet for 10 weeks over the summer. Unfortunately, neither of the APS candidates were successful in this year's competition. However, with earlier notice to potential applicants we hope to field a successful candidate for the fellowship in 1999.

### Other

The Committee responded to other issues that arose this year. Recommendations were made to the National Research Council Committee on National Needs for Biomedical and Behavioral Scientists that is reviewing the NIH National Research Service Award. APS used its NetAlert rapid response network to generate letters to Congress to forestall hasty legislative action on cloning, and the Society will be represented on a special FASEB committee that will examine various options to address concerns about the possible efforts to clone a human being. There has been little activity in the area of research integrity in recent months; however, a single interagency definition as to what constitutes misconduct is expected at any time. Finally, we have tried to reorganize the function of the Public Affairs Committee to distribute the expertise among its members among the issues.

While Alice Hellerstein remains our anchor of informa-

tion, each member of the Committee has taken responsibility for major areas of science policy. At all times, the Committee welcomes any questions or concerns from the membership.

*J.R. Haywood, Chair*

## Publications Committee

The most significant activity in the Publications Department in 1997 was the successful launch of two of the APS research journals online (the *Journal of Applied Physiology* and *Journal of Neurophysiology*) and the preparation for the *American Journal of Physiology* to go on-line in early 1998. Online access was limited to print subscribers after an initial 3-4



month open access trial period. The *American Journal of Physiology* was made available online in the Spring of 1998 with free access until the Fall of '98. APS members, however, are offered online access to all APS journals for a special annual fee of \$49.50 a year.

The journals overall were able to generate 4% more income than expenses in 1997. Because of the decision to accelerate online access to the *AJP* in 1998, it is not expected that the Publication program can generate 10% over expenses as recommended by Council in 1996, but it is the eventual goal. The Council has chosen the economic "model" of free online access with print but the effect of this "model" will not be apparent for a couple of years. The Society has established a marketing agreement with HighWire Press, however, whereby institutions will be able to purchase online only subscriptions at a lower price than the print domestic subscription price. We hope that HighWire will be able to bring in new institutional subscriptions for the journals.

The Production Department successfully eliminated the backlog of manuscripts for the *AJP* by hiring extra staff and working overtime. As a result, 15% more pages were published in the *AJP* in 1997. By the Spring of 1998 accepted manuscripts were being assigned to the next available issue upon receipt.

The Finance Committee and Council approved several significant recommendations of the Publications Committee in 1997 that are affecting the finances of the journals as follows: the implementation of a mandatory submission fee, mandatory page charges, a free color experiment, and a page cap policy.



## Committee Reports

### Mandatory Submission Fee

A mandatory submission fee of \$50.00 for the *Journal of Neurophysiology* and the *American Journal of Physiology* (except for *Advances in Physiology Education*) is required. Authors are paying promptly once they know of the fee.

### Mandatory Page Charges

A much stricter enforcement of mandatory page charges with no waivers and an improved collection system for non-payment of reprint, color, and page charge invoices is being put into place. Authors who have traditionally and automatically asked for waivers are having some problems with this new policy. The Committee feels that page charges should be evenly assessed on all authors. Authors are being warned that nonpayment of page charges, reprint, and color figure invoices could jeopardize future submissions. Page charge income and reprint income is an important source of revenue to the Society to keep costs (hence subscription prices) down. Subscription prices have had to be increased significantly in 1997 and 1998 to cover online costs and compensate for loss of subscriptions.

### Free Color

An experiment to provide free color to APS members in good standing (first and last authors) for manuscripts published in 1998 in the *Journal of Neurophysiology* has been instituted. The subsidized color policy for all journals and the new policy for *Journal of Neurophysiology* has resulted in a significant increase in color in the journals.

### Page Caps

To control escalating costs, editors are required to adhere to page caps determined in cooperation with the Publications Committee at the editors' meeting held during the Spring 1998. The cooperation of the editors was also sought to increase rejection rates and encourage authors to shorten articles.

### Editor Appointments/Reappointments

The Publications Committee reappointed Jeffrey Pessin to a second three-year term for the *AJP: Endocrinology and Metabolism*, reappointed Stanley G. Schultz to a second three-year term for the *News in Physiological Sciences* journal, and reappointed Penelope Hansen for a third three-year term for *Advances in Physiology Education*. Martin Kagnoff took office as the editor of *AJP: Gastrointestinal and Liver Physiology* on July 1. Following interviews held during EB '98, David Harder was selected as the new editor for *AJP: Heart and Circulatory Physiology*.

### Centennial Preparations

In 1997 the Publications Department formalized the

plans for celebrating 100 years of journal publication: deadlines were set, articles were invited, and new covers were designed by the APS Art Department. A list of the Centennial articles appeared in the February 1998 issue of *The Physiologist*. "A Living History: A Dramatization of the American Journal of Physiology 1898-1998" was performed at the EB '98 Meeting in San Francisco. The proposal, organization, and production of the presentation was the work of Charles Tipton and Daniel Gilbert, and we thank them and the cast for a memorable event. It was fun and well attended. Special thanks are also due to Alice O'Donnell, Senior Staff Assistant, for designing such an attractive program, producing the slides, and arranging conference calls, and to Mrs. Gilbert for videotaping the production.

### Other Items of Significance

**Ethics Policy.** The Council responded to the Publications Committee's request for the development of a formal ethics policy; the policy is being published in the journals on the inside back cover. The Committee determined that meeting presentations that are videotaped and sold and the posting of a research manuscript on the Web before submission to an APS journal constitute prior publication. The Committee instructed editors to inform reviewers that they have the responsibility to report suspected duplicate publication, fraud, or plagiarism. The committee handles several ethical cases a year.

**Modeling In Physiology.** Modeling in Physiology as a separate editorial office was phased out with the completion of Mary-Anne Farrell Epstein's term as editor.

**Editorial Focus Sections.** The editors of *AJP: Cell Physiology* and *AJP: Lung Cellular and Molecular Physiology* developed a new section in their journals called Editorial Focus that features a short invited commentary on a significant article that is appearing in the same issue of the journal. By the May issues seven Focus articles had been published.

**Books.** In 1997 three books were published: one history book in the People and Ideas Series (*Moving Questions: A History of Bioenergetics*, edited by J.D. Robinson), and two handbooks (*Cell*, edited by J.F. Hoffman and J.D. Jamieson) and (*Comparative Physiology*, edited by W.H. Dantzler). The first volume of the new editions of the Endocrine System Handbooks (*Cellular Endocrinology*, edited by M. Conn) appeared in the Spring of 1998.

**New Journal.** The Council approved the concept of a new APS journal entitled *Physiological Genomics*; the Committee endorsed the proposal. Victor Dzau has been appointed Editor and Lucy Shapiro, Richard Mulligan, Robert Rosenberg,

## Committee Reports

David Housman, and Allen Cowley have agreed to serve as Associate Editors. Several start-up meetings and conference calls have been held. The new journal is scheduled for publication in 1999.

**Citation Statistics.** The Publications Manager contracted with the Institute for Scientific Information for updated citation statistics for the individual *AJP* journals. The results of the study were published in June 1998 issue of *The Physiologist*. The statistics are also to be published in the journals and on the APS Home Page.

**Manuscripts Submitted.** Manuscripts submitted to the research journals decreased by 1% overall in 1997 compared with 1996, and are down 8% compared with the same time last year as of May 31, 1998.

**Style Changes.** Page numbers for each individual *AJP* journal were added to the spine of the consolidated version of the journal. On article title pages, author affiliations were cross-referenced to authors by numbered superscripts.

This is my last Committee report for *The Physiologist* as Chairman, and I would like to take the opportunity to say how much I have enjoyed my six years in office. I've also appreciated the opportunity to be a part of some important events in the life of the research journals: the celebration of significant anniversaries for the *American Journal of Physiology*, the *Journal of Applied Physiology*, and the *Journal of Neurophysiology*, and the on-line publication of the journals. I believe the Committee's recommendations to Council over the last few years have led to greater financial stability for the journals, and its choices of editors have enhanced the prestige of the Society's publications. I thank all the people I have worked with over the years - it has been a pleasure. I am especially grateful to Brenda Rauner whose competency and personality allowed me to enjoy carrying out my responsibilities.

Leonard R. Johnson, Chair

### Section Advisory Committee

The Section Advisory Committee (SAC) met at EB '98 on April 17 in a joint session with APS Council and in a separate session on April 18. The primary areas of discussion included 1) a review of the new responsibilities of the sections for programming the EB meeting, 2) mechanisms for strengthening the sections, 3) the role of the sections in long-range planning for APS, and 4) the role of the sections in APS advocacy.

A decision was made to utilize the meetings of SAC mainly for strategic planning. This year the joint meeting of APS Council and SAC was used to discuss the implementation of recommendations made at the Park City, Utah retreat in October 1997. One important recommendation of this retreat was the creation of Section Programming Committees (SPCs) that would



empower the sections in planning future EB meetings. In general, the section chairs were very enthusiastic about the changes, felt that the process was working well, and that the changes would greatly improve the EB meetings in the future.

During the second day of the SAC meeting, Allen Cowley, President of APS, and Gabriel Navar, President-elect, were invited to provide their perspectives. Both stressed the need for sections to increase their activities in programming and in increasing the membership of APS.

### Recommendations for Programming the Meeting

We discussed in detail the new responsibilities of the sections in planning the program for the EB meeting. The process seems to be working well, but SAC recommends that the following additional changes be considered:

- That the APS separate itself from the overall EB themes that have been used in the past.

- That the program listings be sectionalized to the fullest extent possible, to enhance the "meeting-within-a-meeting" concept.

- That additional funds be provided for section programming activities and that the sections be provided a "lump sum" for maximum flexibility. SAC recommended that the sections be provided \$1,500 for each minisymposium and \$2,500 for each symposium programmed. In addition, SAC recommended that the registration fees be paid for symposium speakers.

- That each section be permitted to maintain a "carry over" account that would accumulate interest to be used for section programming activities. The rationale for this recommendation is that flexibility is needed to develop consistently outstanding programs. In some years, costs for invited speakers would be more than in other years, especially if speakers are invited from outside the US. When funds were not fully utilized, they would be available for future program expenses.

- The SAC recommended that the effectiveness of the new programming changes be evaluated at future joint SAC/Council retreats.

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### Recommendations for Section Development

There was considerable discussion of mechanisms to strengthen the sections and SAC recommended :

- That each section develop an “operator’s manual” that would detail the purpose of the section, the responsibilities of the steering committee and the Joint Program Committee, and deadlines for various activities. The APS staff will provide each section chair a handbook containing key information about the American Physiological Society, section governance, section operating procedures, awards, and deadline dates for various section activities. This template will be used to develop an operator’s manual for each section. SAC recommended that these manuals be completed by July 1, 1998.

- That APS establish a Young Investigator Award for each section, with \$1,000 allocated for each award. Each section would be responsible for developing guidelines for its award.

- That APS Council consider ways to enhance the prestige of the leadership positions of the sections, especially the chairperson position. There was general consensus that being a section chair should be as prestigious as being an editor of an APS journal, if APS wants to attract outstanding physiologists to actively participate in section activities.

- That applications for APS student awards should document that the student is primarily responsible for the research work.

- That each section, with the help of APS staff, develop a web page that contains the newsletters, section activities, operators manual, and other information about the section. This would facilitate exchange of information among the sections and among APS headquarters and the sections.

### Role of SAC in APS Advocacy/Public Affairs

Because the sections are the scientific backbone of APS, they can also play an important role in promoting the science of physiology. SAC recommended that it undertake two activities that would help accomplish this goal:

- SAC will develop a list of the “top 10 advances” in physiology each year.

- SAC will develop a list of the “top 10 new opportunities” in physiological research each year.

Both of these lists will be given to the Public Affairs Committee, which could provide this to various funding agencies, such as the National Institutes of Health or to other agencies.

### Fall Retreat and Future Meetings

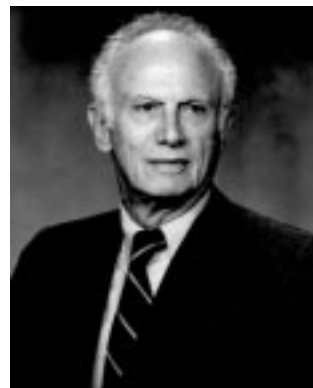
There was agreement that joint meetings of Council and SAC are highly productive and that future meetings should be planned. It was recommended that Council and SAC meet in the fall of 1999 to further discuss ways to strengthen the sections, to improve programming for the EB meeting, and to further develop strategic plans for APS. SAC also recom-

mended that SAC/Council meet for a half day each year at EB, and that the meeting be planned after Council and SAC have each met separately. This would facilitate better communication between SAC and APS Council. ♦

*John E. Hall, Chairman*

### Senior Physiologists

A major responsibility of the Senior Physiologists Committee is to correspond with members of the American Physiological Society who are 70 years old or older. During the year, letters were sent to members on their 70th birthdays and cards were sent to those turning 80, each with a personal note and a request for a reply to be published in *The Physiologist*. Approximately



163 members were sent letters. In the past year, 39 responses to these letters have been received.

In addition, the members of the committee reviewed two applications for the G. Edgar Folk, Jr. awards. These awards are made to emeritus members 70 years or older for such purposes at attending a meeting, engaging in modest experiments, or completing a manuscript. Names of the awardees are not made public. ♦

*Robert M. Berne, Chair*

### Women in Physiology Committee

The Committee on Women in Physiology is charged with identifying the needs of the female membership of the Society and with promoting the discipline of physiology as a rewarding career for young women. We also seek to enhance the professional development of women physiologists at all levels and to increase participation of women in Society



affairs. One of the factors that has been identified for the loss of women from scientific careers is the lack of professional mentoring that they receive. Because of this, in 1995 the Committee established a mentoring program for women at formative stages of their careers that has since become a

## Committee Reports

model for other career development programs. Senior physiologists, of either gender, are paired with junior female colleagues (students, postdoctoral fellows or junior faculty) on the basis of scientific and/or career interests. The match is made for one year initially, during which time the pairs communicate by mail, phone, or e-mail. Past participants have noted they have received advice on such issues as job search strategies, research questions, academic advancement, and the challenge of balancing the demands of a scientific career with one's personal life. The membership is encouraged to participate in the program as either a mentor or mentee. Details and applications are available from the Society's Education Officer, Marsha Matyas.

The Committee, with the invaluable assistance of Matyas, has been exploring ways to further enhance the Mentoring Program. Matyas produces a newsletter for all participants and has also established a listserv where questions related to mentoring or career development issues can be posted. The Committee also sponsors a Mentoring Program workshop luncheon at the annual Experimental Biology meeting, recognizing that this is a venue where mentor/mentee pairs may have a rare opportunity to meet. The round-table format provided ample opportunity for informal discussion and networking, both with senior physiologists and with peers, for the capacity crowd in attendance. In addition, Matyas provided an update on the mentoring program, as well as some interesting data on career patterns of PhD graduates one year after receiving their degree. Attendees were also treated to a light-hearted, but eminently practical, presentation from committee member Alice Villalobos on surviving the transition from student to postdoctoral fellow. Next year, with the Experimental Biology venue being held in Washington, DC, we plan a panel discussion on funding opportunities. This seems particularly timely given the new series of career development awards recently established by the National Institutes of Health.

We are currently gathering data on the employment and needs of our constituency via a survey distributed to 1,100

female members of the APS. A survey summary including information on professional and societal concerns will be prepared by Bonham for publication in *The Physiologist* later in the year. Data obtained from this survey will also be used to recommend female members for service on APS committees, based on expressed interests. Please contact Marsha Matyas if you did not receive a survey and would like to complete one.

The Committee also serves as the review panel for the Caroline tum Suden/Frances Hellebrandt Professional Opportunity Awards. These monetary awards (\$500) also provide complimentary registration for Experimental Biology and the Career Placement Service and are made to graduate students and postdoctoral fellows, of either gender, based on the scientific quality of their abstracts submitted to Experimental Biology and their stated career goals. This year over 100 applications were received, from which 20 exceptional recipients were selected.

Finally, the Chair represents APS on the FASEB Excellence in Science Award Committee. The Committee selects the annual recipient of this award, who is honored for her work with a substantial unrestricted research grant and the opportunity to present a plenary lecture at a FASEB annual meeting. After much discussion, Helen Blau from Stanford (and a member of ASBMB) was selected as the 1999 recipient on the basis of her research contributions to the fields of molecular biology and gene therapy, as well as her exceptional record of teaching, service and contributions as a mentor to students, fellows, and junior faculty, especially women. The Chair was encouraged to note that 3 of this year's 13 nominees were APS members, which represents a considerable increase in our representation. APS members are encouraged to identify distinguished female members who might be nominated for this award. Members are encouraged to contact the committee chairs with any suggestions of nominees, or for advice on how to prepare a competitive dossier.

*Kim E. Barrett, Chair*

### Worldwide Directory of Physiologists on the Internet

<http://www.faseb.org/iups/>

**A searchable database for physiologists working all over the world.**





# APS and Section Awards

## Ray G. Daggs Award

This annual award is presented to a physiologist who is judged to have provided distinguished service to the science of physiology and APS. Selection is made by Daggs Award Committee.

The recipient receives an honorarium of \$500, a plaque, and expenses to participate in the EB meeting. The Award is presented at the spring business meeting of the Society.

## Orr E. Reynolds History Award

**Deadline: December 1**

The Orr E. Reynolds Award is given annually by APS for the best historical article submitted by a member of the Society.

Articles may deal with any aspect of the history of physiology, including the development of physiological ideas and their application, instrumentation, individual and collective biography, departmental and institutional history, history of societies including APS, and physiology in its public context. Manuscripts submitted for the award should represent original research and be adequately documented. Articles published in APS journals or books during the prior calendar year are also eligible for the award upon request by the author(s). The award is open to all classes of APS membership except for those members who have advanced degrees in the history of science and medicine. A member may receive the award only once.

The awardee will receive \$500 plus expenses to attend the annual spring EB meeting. If the awardee wishes, and there is a suitable place on the program, an oral presentation will be made at the EB meeting or a subsequent conference at the beginning or an appropriate scientific session. It is hoped that, after appropriate peer review, the article will be published in one of the APS journals.

Manuscripts will be evaluated by a

committee consisting of three members of APS appointed annually by Council in consultation with the chair of the History of Physiology Group. At least one member will be a professional historian.

Manuscripts should be typed and double spaced with wide margins on 8.5 × 11 paper and should conform to the style used in APS journals. (Instructions will be sent on request.) Three copies should be submitted for use of the review committee. Manuscripts should be sent to the Orr E. Reynolds Award, American Physiological Society, 9650 Rockville Pike, Bethesda, MD 20814-3991, by December 1. The recipient of the award will be announced at the EB Business Meeting.

## Research Career Enhancement Awards

**Deadlines February 15 and August 15**

The APS Career Enhancement Awards are designed to enhance the career potential of APS members. The awards will provide up to \$4,000 to allow individuals in the early phases of their careers to obtain special training and in the later phases of their careers to develop new skills and to retrain in areas of developing interests.

The awards can be used to support short-term visits to other laboratories to acquire new specific skills and to support attendance at special courses devoted primarily to methodologies appropriate for both new investigators and more senior investigators entering a new field of research.

Members in good standing interested in applying should submit an application form including a curriculum vitae, justification for requesting an award, description of enhancement activity and current research program, and anticipated budget for the proposed program of enhancement. The applicant must also include a letter of support either from his/her department chair, laboratory host, or other appropriate individual.

## William T. Porter Fellowship Awards

**Deadlines: January 15 and July 15**

This award is designed to support the training of talented students entering a career in physiology and to provide predoctoral fellowships for minority students, postdoctoral fellowships, and limited sabbatical leave aid for faculty members of predominantly black schools who wish to update their expertise in physiology. In addition, funds have been made available to lecture-ships and laboratory equipment to develop teaching consortia linking predominantly black colleges with medical schools in the same area. Summer research fellowships are also awarded for minority undergraduate opportunities for physiological research.

The recipients receive basic stipends, and an institutional allowance is given to the training department or laboratory where the recipient will work.

## Giles F. Filley Memorial Awards for Excellence in Respiratory Physiology and Medicine

**Deadline: December 1**

The Giles F. Filley Memorial Fund was established in 1993 to recognize excellence in respiratory physiology and medicine. The awards are made to investigators who hold an academic rank no higher than assistant professor and are pursuing research in respiratory physiology and medicine. Each award will be for approximately \$12,000 and is designated for the use of the awardee in his/her research program. Awards do not include any indirect cost reimbursement.

Awards will be made annually to individuals demonstrating outstanding promise based on his/her research program in respiratory physiology and medicine. Applications will be accepted from members of APS working within the US, reflecting Giles F. Filley's con-

## APS and Section Awards

tributions to the national research community through his membership in APS. Because of Filley's long association with the University of Colorado, Denver, preference for one award, on a competitive basis, will be given to individuals affiliated with that institution.

The awards will be announced during the APS Business Meeting held at the EB meeting and at the Respiration Section dinner. The recipients receive reimbursement for their expenses to attend the meeting and a plaque recognizing their designation at Giles F. Filley Awardees. The awardees are selected by a committee composed of members of the APS Respiration Section.

### **Caroline tum Suden/ Francis A. Hellebrandt Professional Opportunity Awards**

**Deadline: November 16**

The APS Caroline tum Suden Professional Opportunity Awards (\$500, complimentary registration, and placement service fees) are granted to as many as 12 graduate students or postdoctoral fellows who present a contributed paper at the EB meeting. Candidates must be the first author of an abstract submitted to APS. An accompanying letter, signed by the sponsor of the abstract, must contain 1) certification that the author is a student or postdoctoral fellow and 2) the approximate date the nominee will be available for employment. Awardees are notified by the Selection Committee prior to February 15 and presented with their awards during the APS Business Meeting.

### **G. Edgar Folk, Jr., Senior Physiologist Award**

The G. Edgar Folk, Jr., Senior Physiologist Fund has been set up through the generosity of family and former graduate students and postdoctoral fellows to provide modest but helpful assistance to senior physiologists, 70 years or older, who no longer have grant funds available to them. The

awards, in the amount of \$500, might be used for such purposes as attending an APS meeting to present a paper, engaging in a series of modest experiments, or completing a manuscript (paying for typists or perhaps page charges). Recipients will be selected with the assistance of the Senior Physiologists Committee throughout the year. Names of awardees will not be made public. When the late Mary Folk organized the support for the Fund, she stated that the purpose of the fund is for the Senior Physiologists Committee "to have fun assisting colleagues and for Emeritus APS members to keep in closer touch with APS."

### **NIDDK Travel Fellowships for Minority Physiologists**

**Deadline: November 23**

NIDDK Travel Fellowships for Minority Physiologists are open to advanced undergraduate, predoctoral, and postdoctoral scientists who have obtained their undergraduate education in Minority Biomedical Research Programs and MARC-eligible institutions, as well as students in the APS Porter Development Program. Applications may also be submitted by minority faculty members at the above institutions. Funds will provide transportation, meals, and lodging to attend the annual spring Experimental Biology meeting. The specific intent of this award is to increase participation of the pre- and postdoctoral minority students in physiological sciences. Applicants need not be members of the APS but should be US citizens or hold permanent resident visas. Applications should include 1) information on academic background and experience; 2) a written statement of interest in research in physiology; 3) a letter of recommendation from the applicant's mentor; 4) a list of publications, if available; 5) a statement indicating the underrepresented minority (Black, Hispanic, American Indian, etc.) with which the applicant identifies himself/herself; and 6) an estimate of required travel and per diem expenses.

### **John F. Perkins, Jr., Memorial Fellowships**

**Deadlines: May 15 and November 15**

APS invites applications for the John F. Perkins, Jr., Memorial Fellowships. The Perkins Fellowships are designed primarily to provide supplementary support to foreign physiologists who have already arranged for fellowships or sabbatical leave to carry on scientific work in the United States.

The supplementary support is intended to help foreign scientists bring their families to the United States and thus enable them to take fullest advantage of other cultural benefits inherent in international exchange. Preference will be given to physiologists working in the fields of respiratory physiology, neurophysiology, and temperature regulation. Applications from scientists in developing countries will also be given special attention.

Application should be made by both the visiting scientist and his/her host. To qualify, the host must be a member of the American Physiological Society. The application should contain an account of these arrangements with a brief description of the proposed scientific work and an account of how visitors and their families intend to make use of cultural opportunities during their stay. Deadlines for receipt of applications are May 1 and November 1. Applications may be obtained from the Executive Director, American Physiological Society, 9650 Rockville Pike, Bethesda, MD 20814-3991, USA.

### **APS Postdoctoral Fellowship in Physiological Genomics**

**Deadline: January 15**

The American Physiological Society, initially in collaboration with Genentech, Inc., designed a postdoctoral fellowship program to promote careers in mammalian organ system physiology. In 1993, the APS-Genentech Postdoctoral Fellowship was established in recognition of the fact that many advances in cell and molecular

## APS and Section Awards

biology will ultimately require an understanding in the context of the organism, and special training will be needed to conduct this type of research. A central criterion is that the postdoctoral project uses the tools of cellular and molecular biology in the setting of the whole animal. In 1996, APS made the commitment to continue supporting the Fellowship without the support of Genentech, leading to its renaming.

Candidates must identify a laboratory and sponsor under whose supervision a project in mammalian organ system physiology and molecular biology can be combined. The award is for a two-year period and includes an annual stipend (\$30,000) and a trainee allowance of \$3,500.

Two awards are made per year.

### **Arthur C. Guyton Awards for Excellence in Integrative Physiology**

**Deadline: December 1**

The Arthur C. Guyton Fund was established in 1993 to recognize Guyton's contributions and his interests in feedback, modeling, and integrative physiology. The awards are made to independent investigators, who hold an academic rank no higher than assistant professor, and are pursuing research that utilizes integrative approaches to the study of physiological function and explores the role of feedback regulation in physiological function.

An unrestricted \$15,000 award is designated for the use of the awardees in their research programs. Awards do not include any indirect cost reimbursement. Applications are accepted from regular members of APS.

The awards will be announced during the APS Business Meeting held at the Experimental Biology meeting. The recipients receive reimbursement for their expenses to attend the meeting and a certificate recognizing their designation as Arthur C. Guyton Awardees.

### **Teaching Career Enhancement Awards**

**Deadlines: April 15 and October 15**

The Teaching Career Enhancement Awards are designed to enhance the career potential of regular members. The awards will provide up to \$4,000 to allow individuals to develop innovative and potentially widely applicable programs for teaching and learning physiology.

The awards can be used to support short-term visits to other schools to consult with experts who can assist with the development project or attendance at special courses devoted to methodologies appropriate for the educational development project.

Regular members in good standing may submit an application form including the following: 1) a 2-page description of the proposed project, including the aim, the educational problem that the project is designed to ameliorate, identification of the innovative aspects, a plan to evaluate the educational outcomes, and the kinds and sources of expertise needed by the applicant to carry out the project; 2) an anticipated budget with justification for requested funds; 3) a letter of support from the applicant's department chair or other appropriate individual; 4) letters of agreement from individual or departmental hosts of schools to be visited; 5) description or outline of courses to be

attended; and 6) a brief curriculum vitae focused on activities and achievements related to education.

Successful applicants are expected to report, in print or at a physiology conference, a description of the project and its evaluation. Awardees are encouraged to submit such reports for publication in *Advances in Physiology Education*.

### **Liaison With Industry Award**

**Deadline: November 16**

Liaison With Industry Awards will be made to the graduate student and postdoctoral fellow submitting the best abstract describing a novel disease model. The awards provide \$500 to the graduate student and \$800 to the postdoctoral fellow.

Awards are announced during the APS Business Meeting held at the Experimental Biology meeting.

### **AAAS Mass Media Science and Engineering Fellowship**

**Deadline: January 15**

APS will sponsor an AAAS Mass Media Science and Engineering fellow who will spend 10 weeks over the summer working for a newspaper, magazine, radio or television newsroom. The program includes a one-week orientation in Washington, DC to help fellows develop their ability to communicate complex scientific issues to nonscientists. Applicants must be currently enrolled as a graduate or postgraduate student of physiology or a related discipline.

The fellowship will include expenses for traveling to sessions and the job site as well as a weekly stipend based on the local cost of living.

**Check out APS's award page on the internet at  
<http://www.faseb.org/aps/awards.htm>**

# APS and Section Awards

## Section Awards

### Distinguished Lectureship Awards

The 12 Distinguished Lectureship Awards are named after outstanding contributors to the disciplinary areas of physiology. The recipient is chosen by the section as a representative of the best within the discipline. The annual lecture is presented at the EB meeting.

Each recipient receives an honorarium of \$1,000 and up to \$2,000 to cover travel expenses.

The 12 named Lectureships are:

- Robert M. Berne Distinguished Lectureship of the Cardiovascular Section
- Hugh Davson Distinguished Lectureship of the Cell and General Physiology Section
- Joseph Erlanger Distinguished Lectureship of the Central Nervous System Section
- August Krogh Distinguished Lectureship of the Comparative Physiology Section
- Solomon A. Berson Distinguished Lectureship of the Endocrinology and Metabolism Section
- Edward F. Adolph Distinguished Lectureship of the Environmental and Exercise Physiology Section
- Horace W. Davenport Distinguished Lectureship of the Gastrointestinal Section
- Carl Ludwig Distinguished Lectureship of the Neural Control and Autonomic Regulation Section
- Carl W. Gottschalk Distinguished Lectureship of the APS Renal Section
- Julius H. Comroe, Jr., Distinguished Lectureship of the Respiration Section
- Claude Bernard Distinguished Lectureship of the Teaching of Physiology Section
- Ernest H. Starling Distinguished Lectureship of the Water and Electrolyte Homeostasis Section.

### Procter & Gamble Professional Opportunity Awards

The Procter & Gamble Professional Opportunity Awards (providing \$500 and complimentary registration for the EB meeting) are granted to at least 17 predoctoral students who present a contributed paper at the meeting. Candidates must be the first author of an abstract submitted to APS and within 12-18 months of completing his/her PhD degree. All recipients must be US citizens or hold a permanent resident visa. An accompanying form, signed by the sponsor of the abstract, must contain 1) certification that the author is a predoctoral student and 2) the approximate date of degree completion. Awardees will be notified before February 15. Awardees are selected by the following sections of APS: Cardiovascular, Cell & General Physiology, Central Nervous System, Comparative Physiology, Endocrinology & Metabolism, Environmental & Exercise Physiology, Gastrointestinal, Neural Control & Autonomic Regulation, Renal, Respiration, Teaching of Physiology, and Water & Electrolyte Homeostasis.

### Cardiovascular

The Cardiovascular Section presents two annual awards: the Lamport Award and the Carl J. Wiggers Award.

The Lamport Award is presented to a young investigator under the age of 36 showing outstanding promise in his/her field of cardiovascular research. The recipient, who receives a certificate and a \$500 check, is selected by an awards committee. The Carl J. Wiggers Award honors a founder of the section and is presented to a scientist who has made outstanding and lasting contributions to cardiovascular research. The selection is made by the Steering Committee. The recipient receives a plaque and presents a lecture on their research at the annual EB meeting.

### Central Nervous System

The Van Harreveld Memorial Award (\$250) is presented by the Central Nervous System Section to recognize outstanding research in neuroscience by a graduate student or postdoctoral fellow. The recipient must be first author on an abstract presented at the EB meeting.

### Comparative Physiology

The Comparative Physiology Section Scholander Award is presented annually to recognize an outstanding young investigator presenting a paper as first author in a designated comparative physiology session at the EB meeting or the Comparative Physiology Intersociety fall meeting. Candidates must be not more than five years beyond their highest degree. The recipient receives a cash award or prize and a certificate.

### Environmental and Exercise Physiology

The Environmental and Exercise Physiology (EEP) Section presents three awards at its annual banquet. Recipients are expected to be present to receive their awards.

The Gatorade Young Investigator Award is to recognize outstanding research in either environmental, exercise, or thermal physiology by a predoctoral graduate student. The recipient must be first author on an EEP abstract that has been judged by the Steering Committee to be best example of experimental research by a student who has not received their advanced degree at the date of the abstract deadline. The awardee will receive a certificate, a check for \$500, and reimbursement of their registration fee.

The EEP Honor Award is presented to a previous or current primary member of the Section whose research has made significant national and international contributions to the advancement of environmental, exercise, or thermal physiology. Membership nominations



## APS and Section Awards

are directed to the Nominations Committee who will make recommendations to the Steering Committee for their final selection. The recipient will receive a plaque, a check for \$1,000, reimbursement of their registration fee, and the opportunity to discuss their research as the featured speaker at the annual Section banquet.

### Gastrointestinal

The Gastrointestinal Section presents two annual awards: the Gastrointestinal Section Student Prize and the Distinguished Research Award in Gastrointestinal Physiology.

The Gastrointestinal Section Student Prize is designed to challenge and reward trainees who are engaged in gastrointestinal research. Two awards will be made at the EB meeting. One will be given for work done while enrolled as a doctoral or medical student. A second award will be given for work performed during the first through third postdoctoral years or during a medical residency. In order to be considered, the applicant must be first author on an abstract submitted for the EB meeting, and either the applicant or sponsor must be a member of APS. Awardees are presented with a cash prize and certificate at the annual section banquet.

The Distinguished Research Award in Gastrointestinal Physiology recipient is selected by the Steering Committee to recognize outstanding achievement in gastrointestinal research. Nominations for the award are welcomed from the membership. The recipient presents a lecture during the annual section banquet and receives a cash prize.

### Neural Control and Autonomic Regulation

The Michael J. Brody Young Investigator Award recognizes a promising young investigator who has made a significant contribution to the understanding of neural control and autonomic regulation. The Award is sponsored jointly by Merck & Co., Inc. and the Neural Control and Autonomic Regulation Section and consists of a certificate and \$500. The award is open to gradu-

ate students (post-candidacy exams), postdoctoral fellows, and clinical fellows who present and are first authors on an abstract at the EB meeting. The applicant or abstract sponsor must be a member of APS. Applications must include: a copy of the abstract; the completed APS Student Award Certification Form; a list of publications; a one-page summary and evaluation of research contributions, written by the applicant; and a cover letter signed by both the applicant and sponsor indicating the date, or expected date, of highest degree. The deadline for receipt of applications is December 30, 1998. Send applications to Linda Allen, Membership Services, APS, 9650 Rockville Pike, Bethesda, MD 20814.

### Renal

The Hoechst Marion Roussel Excellence in Renal Research Awards are sponsored by Hoechst Marion Roussel and are designed to promote and develop excellence in research pertaining to molecular, cellular, or organ mechanisms involving the kidney. Awards are presented to two categories of students: predoctoral students (including graduate students and medical students) and postdoctoral fellows. Award recipients must be first authors on an abstract submitted to Renal and Electrolyte Physiology for programming at the EB meeting. Prior to the meeting, a first level of evaluation is conducted based on the submitted abstract. A subset of abstracts are further judged during oral presentation at the meeting. Award winners are announced at the annual renal dinner held in conjunction with the meeting and are presented with a cash prize.

Neurex Young Investigator Award for Excellence in Renal Physiology recognizes an outstanding young investigator working in any area of renal physiology. Nominees must be less than 41 years old as of the date of the renal dinner or less than 15 years beyond receipt of their first doctoral degree.

### Teaching of Physiology

The Teaching of Physiology Section sponsors the Arthur C. Guyton Physiology Teacher of the Year Award. The award is sponsored by the W. B. Saunders Company. Nominees must be full-time faculty members of accredited colleges or universities and members of APS. They must be involved in classroom teaching and not exclusively teaching graduate students in a research lab. Each nominee must be nominated by a member of APS. The nominator is responsible for completing application materials and forwarding copies to the chair of the Award Selection Committee.

The person selected receives the award at the annual banquet of the Teaching of Physiology Section. The Teacher of the Year receives a certificate, an honorarium of \$1,000, and expenses of up to \$650 to attend EB.

### Water and Electrolyte Homeostasis

The Young Investigator Award in Regulatory and Integrative Physiology was established to encourage young investigators to continue research careers in regulatory and integrative physiology. The award is presented annually at the business luncheon of the Water and Electrolyte Homeostasis Section to a young investigator (<40 years old) who has made important contributions to our understanding of the integrative aspects of cardiovascular, renal, and neuroendocrine physiology in health or disease. The award consists of \$500, a plaque, and complimentary registration to the EB meeting. The recipient of the award is invited to present a short lecture on his/her research during a scientific session of the EB meeting.

Any member of APS in good standing may apply or be nominated for the award. Applications will be reviewed by the Section's Award Committee and should include a curriculum vitae of the nominee, a brief (one-page) summary and analysis of the research contributions of the nominee, a complete list of publications, and two letters of nomination from members of APS.

## Membership

### Accepted Student Applicants

**Andrew Nordstrom Alexander**

University of Wisconsin.

**Gregory C. Amberg**

University of Nevada, Reno

**Erwin Bautista**

University of California, Davis

**Nicholas J. Bernier**

University of Ottawa

**Brandon James Biesiadecki**

Medical College of Ohio

**Sherri M. Borman**

University of Arizona

**Charles R. Buerstatte**

Idaho State University

**Thomas G. Buxton**

San Francisco State University

**Christy A. Carello**

University of Colorado, Boulder

**Ben T. Chen**

University of Illinois, Chicago

**Eugene J. Choi**

Thomas Jefferson University

**Graham Trevor Cottrell**

University of Arizona

**Jill M. Dansand**

Miami University

**Rachel Elaine Davis**

Dickinson College

**Denise Deming**

University of Illinois

**Lincoln Edwards**

Loma Linda University

**Joseph S. Ehardt**

University of Texas

**Andreas Fahlman**

Carleton University

**Yiping Fan**

University of Illinois

**Russell J. Ferland**

University of Rochester Medical Ctr.

**Monica Gallegos**

Santa Fe Community College

**Ron J. Gerrits**

Medical College of Wisconsin

**Mike Gregory**

California State University

**Elizabet Vasquez Guzman**

University of Puerto Rico

**Abeer Gaffer Ali Hassan**

Duke University Medical Center

**Sprague W. Hazzard**

Dickinson College

**Peter Hook**

Penn State University

**Melanie Sue Houle**

Ohio State University

**Christopher J. House**

University of Guelph

**Willy Hwang**

Rice University

**Kelly L. Karau**

Marquette University

**Leah Kelley**

Florida International University

**Kameha Kidd**

University of Arizona

**Deirdre Killebrew**

University of Hawaii

**Scott King**

University of Alabama, Birmingham

**Amy M. Kitchen**

Wayne State University

**Keri Kles**

University of Illinois

**Kimberly D. Lee**

Indiana University, Perdue

**Darcy Lidington**

University of Western Ontario

**Bei Liu**

Kent State University

**Jun-Li Liu**

University of Nebraska

**Jennifer Lucitti**

New Mexico State University

**Barbara Lujan**

University of Texas Medical Center

**Bryan P. Malmstrom**

New York University

**Brenda Martinez-Nieves**

Wayne State University Med. School

**Chastity Leigh Merkwan**

University of South Dakota

**Adam M. Miller**

University of Colorado

**Karmardi Mills**

Meharry Medical College

**Winnie Pak**

University of California, Davis

**Pircher Parinez**

Pennsylvania State University

**Mindy Pope**

Eastern Washington University

**Bhagavathi Ramamurthy**

Pennsylvania State University

**Nicole A. Reynolds**

University of Colorado, Boulder

**Stephen P. Roberts**

Arizona State University

**Stephen M. Roth**

University of Maryland

**Laura Ruff**

University of Minnesota

**Michael F. Salvatore**

Louisiana State University Med. Ctr.

**Hank Schimdt**

Medical College of Georgia

**Mike Shah**

Tulane University

**Joel Solano**

Arizona State University

**Linda Barrett Stull**

University of Akron

**Sheila J. Thornton**

University of British Columbia

**Lynette Vos**

University of the Pacific

**Jan Wheller**

Texas Woman's University

**Fushun Yu**

Pennsylvania State University

**Jun Zhou**

Louisiana State University

### Accepted Affiliate Applicants

**Michelle Kerklotz**

Honolulu, HI

**Patricia Susan Bowne**

Alverno College

**Michal Lynn Boyd**

Univ. of Colorado School of Nursing

**Nicholas G. Despo**

Theil College

**Harry S. McDonald**

Stephen F. Austin State University

**Mary C. Woods**

Athens State University

## Honorary Membership

### Stefan Angielski

**Stefan Angielski** was born in 1929 and raised in Luboml, a small town in eastern Poland. In 1939, at the beginning of World War II, he and his family were deported to Siberia, Russia. He was able to return to Poland seven years later and, in 1949, began his medical education at the Medical University in Gdansk, Poland. Within a very short time, Stefan became deeply interested in physiological chemistry and research. By the end of his second year of medical school, he was offered the position of Research and Teaching Assistant Professor by Włodzimierz Mozolowski, Professor and Chairman of Physiological Chemistry at the Medical University in Gdansk. Stefan jumped at the opportunity without hesitation. He received his MD degree in 1954, and four years later, earned a PhD degree in Medical Sciences at the Medical University in Gdansk. The same year he received his PhD degree, he was appointed Assistant Professor of Biochemistry and Biophysics of the Polish Academy of Science in Gdansk. In 1958, after the successful presentation of his first research paper at the International Congress of Biochemistry in Vienna, Austria, entitled "Urinary amino acids excretion in mono and dizygotic twins", he devoted himself solely to kidney research. As the result of a fellowship grant he received from the Rockefeller Foundation in 1960, he was able to continue his research in the Department of Medicine, College of Physicians and Surgeons, Columbia University, New York, New York. In 1963, at the age of thirty-four, he became Chairman of the Department of Clinical Biochemistry at the Medical University in Gdansk. After receiving a research grant from the National Kidney Foundation (USA) in 1968, he collaborated with David Simpson at his lab in Seattle, Washington. A few years later, he accepted an invitation from Frank Knox to join him and his col-

leagues in the Department of Physiology, Mayo Clinic and Foundation, Rochester, Minnesota in order to study the effect(s) of lithium and respiratory alkalosis on renal phosphate transport.



Stefan Angielski

His decision to investigate the effects of maleic acid on kidney transport and metabolism resulted in several of the most productive and happiest years of his life. In the early 1960's he and his colleagues demonstrated that toxicity of maleate to the kidney is determined by two basic phenomena: i) a unique renal avidity for this compound and ii) organ-specific metabolism of maleate. They have shown that metabolism of maleate to  $\text{CO}_2$  occurs only in the kidney and that formation of d(+) maleate, an initial and intermediate product of maleate conversion, is catalyzed by maleate hydratase, enzyme which is exclusively localized in renal tissue; d(+) maleate is not toxic to the kidney. However, the second metabolic pathway of maleate via succinyl-CoA transferase reaction is harmful to the kidney; this enzyme is detectable in the kidney but not in the liver. The toxic metabolite, maleyl-CoA, formed in succinyl-CoA transferase reaction is interacting avidly with

free SH groups. In addition, they have shown that acetoacetate, a physiological substrate of succinyl-CoA transferase reaction, competes with maleate and prevents formation of maleyl-CoA. Also, infusion of acetoacetate prevents maleate-induced ketoaciduria, bicarbonate diuresis, glucosuria, aminoaciduria and phosphaturia. (The majority of these results were summarized in several manuscripts published in the *American Journal of Physiology*.)

Over the last two decades, he has focused his research interest on metabolism and transport of purine in the kidney. He and his colleagues provided evidence that the purine nucleotide cycle is more active in renal medulla than cortex. They suggested that this cycle may facilitate storage of purine nucleotides in medulla which can be utilized to restore the ATP pool in this relatively hypoxic region of the kidney.

In 1982, as a result of a fruitful collaboration with M. Lehir and U. Dubach in Basel, Switzerland, he demonstrated for the first time the existence of sodium-dependent adenosine transport in renal brush border membrane vesicles. With the knowledge that NAD is a strong inhibitor of sodium-dependent phosphate transport, he was interested in determining the stability of NAD. They were able to demonstrate that brush border membrane vesicles possess a nucleotide pyrophosphatase (ecto-ATPase) activity which is involved in hydrolysis of NAD. Later, they determined distribution along the nephron of this enzyme as well as other ecto-enzymes which are involved in metabolism of purine.

Although the above paragraphs do not entirely describe Stefan's scientific interests and accomplishments during his last fifty years as a researcher, physician and teacher, this should serve as an adequate summary. ♦

## Honorary Membership

### Bengt Erik Andersson

Bengt Erik Andersson was born January 12, 1923 in Lund, Sweden. His father, Nils Andersson, was the county veterinary officer.

Andersson received his degree in Veterinary Medicine in Stockholm in 1947. Three years later, in 1950, he studied with W.R. Hess, in the Department of Physiology at the University of Zürich, Switzerland. He received his PhD in 1951. Through a Rockefeller stipend, he also studied with E.B. Verney in the Department of Pharmacology at Cambridge University from 1952-1953.

After receiving his degrees, Andersson served as an associate professor of physiology at the Royal Veterinary College in Stockholm. This was immediately followed by him serving as head of the Department from 1965-1971. From 1971-1981, he transferred to the Karolinska Institutet in Stockholm to serve as professor and head of the Department of Physiology there. After serving 10 years there, he moved again to become professor and head of the Department of Physiology for the Faculty of Veterinary Medicine at the Swedish University of Agricultural Sci-

ences in Uppsala. From 1982-1989, he filled the position as dean of the Faculty of Veterinary Medicine until becoming Emeritus Professor of Physiology in 1989.



Bengt Erik Andersson

During his career, his main fields of research were the cerebral control of fluid balance and regulation of body temperature.

Throughout his lengthy career, Andersson has received memberships

and commissions in numerous organizations, including the Royal Swedish Academy of Sciences; the Royal Danish Academy of Sciences; the Royal Norwegian Academy of Sciences; Royal Swedish Academy of Forestry and Agriculture; the IUPS Council; the Council for International Society of Neuroendocrinology; the Council of the Max-Planck Institute, W.G. Kerckhoff Institute, Bad Nauheim, Germany, 1st Vice President of the Pavlovian Society; member at large of the Howard Florey Institute of Experimental Physiology and Medicine, Melbourne, Australia; and secretary general of the Scandinavian Physiological Society.

As a result of his extensive research, Andersson has received numerous awards for his accomplishments. They are the Swedish Society for Research in Veterinary Medicine Gold Medal, the Royal Swedish Academy of Science, the Florman's prize for localization of the cerebral thirst mechanism, the Pontifical Academy, Pius XI gold medal, and Swedish Veterinary Association Gold Medal and the Yngve Zotterman Prize and medal. ♦

### Honorary Members

**Bengt Andersson**  
Stockholm, Sweden  
**Stefan Angielski**  
Gdansk, Poland  
**Ivan Assenmacher**  
Montpellier, France  
**Knut Aukland**  
Bergen, Norway  
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Stockholm, Sweden  
**Sir Andrew Huxley**  
Cambridge, UK  
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Saitama, Japan

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Lyon, France  
**Sir Bernard Katz**  
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**Richard D. Keynes**  
Cambridge, UK  
**Christopher C. Michel**  
London, UK  
**Francois Morel**  
Paris, France  
**Erwin Neher**  
Göttingen, Germany  
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Oxford, UK  
**Autars S. Paintal**  
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**Hermann Passow**  
Frankfurt, Germany  
**Max F. Perutz**  
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Goettingen, Germany  
**Bert Sakmann**  
Heidelberg, Germany  
**Jens Christian Skou**  
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**Karl J. Ullrich**  
Frankfurt, Germany  
**Hans H. Ussing**  
Copenhagen, Denmark  
**Sir John Vane**  
London, UK  
**Jean-Didier Vincent**  
Yvette, France  
**Ewald R. Weibel**  
Bern, Switzerland  
**Silvio Weidmann**  
Bern, Switzerland



# Experimental Biology

## Physiology and Experimental Biology '98

Experimental Biology '98 was held April 18-20 in San Francisco, California and was a joint meeting of six FASEB societies: APS, American Society for Pharmacology and Experimental Therapeutics (ASPET), American Society for Investigative Pathology (ASIP),

respiratory biology; and signal transduction and gene regulation.

A total of 6,525 volunteered abstracts were submitted, which was an increase of 70% from EB'97 where four societies met. Of this total, 2,518 papers or 39% were received from the APS

program.

Of the 2,518 APS abstracts, 17% (429) were presented by female scientists as first authors and 15% (371) were received from institutions outside of The Americas. Government laboratories represented 3% (80) of the abstracts

Table 1. EB '98-Abstracts by Theme and Society.

	APS	ASPET	ASIP	ASNS	AAI	AAA	Total
Total Abstracts Received:	2,518	648	344	1,347	1,386	282	6,525
Theme Name							
Cardiovascular Biology	880	124	72	43	16	34	1,169
Cell Injury, Inflammation & Repair							
Cellular Growth & Development	45	22	15	24	3	18	127
Epithelial Cell Biology	128	25	20	6	4	2	185
Metabolic & Disease Processes	67	31	15	209	7	7	336
Neurobiology	99	86	5	11	4	31	236
Respiratory Biology	279	17	22	8	5	9	340
Signal Transduction & Gene Regulation	74	89	11	18	9	6	207
Total Abstracts per Theme	1,572	394	160	319	48	107	2,600
% to Themes of Total Received by Society	63%	61%	47%	24%	3%	39%	40%
+/- from 1997 meeting	0%	N/A	+28%	-17%	N/A	-33%	-12%

American Society for Nutritional Sciences (ASNS), American Association of Immunologists (AAI), and American Association of Anatomists (AAA). The APS hosted four of the 17 participating guest societies: BMES, SEBM, Microcirculatory Society and the Chinese Physiological Society. EB '98 was organized around eight themes: cardiovascular biology; cell injury, inflammation and repair; cellular growth and development; epithelial cell biology; metabolic and disease processes; neurobiology;

membership and its guest societies. Details about abstract submission for each of the various themes are included in Tables 1 and 2. Of the 6,525 total abstracts received 2,600 or 40% were incorporated into themes; the remaining abstracts (3,925 or 60%) were presented under the auspices of the sponsoring societies. Of the 2,518 abstracts submitted to the APS, nearly two-thirds (1,572 or 62%) were presented as part of themes, whereas the remainder (946 or 38%) was presented as part of a societal

received, and industry laboratories represented 2% (59). Table 3 provides information on the departmental affiliations of the first authors and indicates that 18% (457) were received from departments of physiology and 5% (136) from departments of physiology and biophysics.

The APS programmed 226 total sessions, which included 124 poster, 40 slide/minisymposium, 31 symposium, 14 lectures, 6 Physiology InFocus, 6 poster discussion, 1 refresher course, 1

Table 2. EB '98 Number and Type of Sessions Programmed by Theme (Number of Abstracts)

Theme Name	Invited	Oral/Mini	Poster	Post Disc	Total
Cardiovascular Biology	20	20 (187)	60 (1,136)	0	100 (1,326)
Cell Injury, Inflammation & Repair	39	1 (12)	0	0	40 (12)
Cellular Growth & Development	7	3 (26)	13 (125)	0	23 (151)
Epithelial Cell Biology	7	0	14 (150)	1 (18)	22 (168)
Metabolic & Disease Processes	10	14 (136)	29 (378)	0	53 (514)
Neurobiology	7	1 (9)	12 (172)	0	20 (181)
Respiratory Biology	9	16 (111)	21 (283)	0	46 (394)
Signal Transduction & Gene Regulation	10	2 (13)	16 (221)	0	28 (234)
Total Sessions (and abstracts)	109	57 (494)	165 (2,465)	1 (18)	332 (2,980)
Programmed by Theme					

## Experimental Biology

dramatic presentation and three miscellaneous sessions. The lecture sessions included 12 Section Distinguished Lectureships and the Cannon and Bowditch Lectures. The Section Distinguished Lectureships served as the focal point for the programs of each of the sections and were complemented by special sessions related to the lecture and designed to encourage interactions between students and fellows and the Distinguished Lecturer. The dramatic presentation, directed by Charles Tipton and Daniel Gilbert, was a centennial celebration of the publication of the American Journal of Physiology. Twenty-six APS members, most in period costume, portrayed prominent people in the history of the AJP. The miscellaneous sessions comprised of the APS Business Meeting, Public Affairs symposium, and Career Opportunities in Physiology symposium.

The total meeting registration was 13,227 which represents an increase of

Table 3. EB '98 Author Affiliations of Programmed Volunteered Papers

Department	Number of Papers	% Total
Physiology	457	18
Medicine	166	7
Biology	152	6
Physiology & Biophysics	136	5
Pharmacology	128	5
Surgery	118	5
Anesthesiology	92	4
Cardiology Sciences	83	3
Pediatrics	58	2
Biomedical Engineering	50	2
Biochemistry	44	2
Exercise/Sports Medicine	23	1

74% from EB '97 in New Orleans where four societies met (APS, ASIP, ASNS and AAA). The total scientific registration was 10,510 with 4,772 members, 2,924 nonmembers, 125 retirees, and 2,689 students. Additionally, there were: 1,749 exhibitors, 475 guests of exhibitors, 364 guests of scientists and, 50 press registrants. Seventy-nine people registered solely to view the exhibits for one day only.

The American Physiological Society

gratefully acknowledges the support, through educational grants, from: Bachem, Incorporated; Burroughs Wellcome Fund; Data Sciences, Incorporated; Gould Instrument Systems; Merck and Company; Novartis Consumer Health, SA; Novartis Pharma AG; Parke-Davis Pharmaceutical Research, Warner-Lambert Company; Sigma-Aldrich Chemical Company; Specialty Laboratories; and the William Townsend Porter Foundation. ❖

## APS Sustaining Associate Members

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

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## Experimental Biology

### **A Living History: A Dramatization of the *American Journal of Physiology* (1898-1998)**



Martin Frank (playing William T. Porter), John West (playing Sir Michael Foster), Vernon Bishop (playing Henry P. Bowditch), and Carl Gisolfi (playing Walter Meek).



Martin Frank (playing William T. Porter) and Walter Boron (playing Anton Carlson).



L to R: Brenda Rauner, Vernon Bishop (playing Henry Bowditch), Charles Tipton (playing Donald Hooker), Clark Blatteis (playing Frederick Lee), Aubrey Taylor (playing Russel Chittenden), Robert Gore (playing Graham Lusk), Arthur DuBois (playing Sammuel Meltzer), Robert Forster (playing Walter B. Cannon), John Reeves (playing Joseph Warren), and Alfred Fishman.



L to R: Aubrey Taylor (playing Russel Chittenden), Clark Blatteis (playing Frederick Lee), Martin Frank (playing William T. Porter), Vernon Bishop (playing Henry Bowditch), Robert Gore (playing Graham Lusk), Gerald DiBona (playing Warren Lombard).

# Experimental Biology

## Experimental Biology '99

April 17-21 • Washington, DC

### Physiology InFocus

### Genomics and Molecular Medicine

**Organizers: Victor Dzau and L. Gabriel Navar**

*Physiological Genomics: Launching a New Journal*

**Victor Dzau**

Tissue Specific Gene Targeting as a Window Into  
Physiological Function

**Curt Sigmund**

*From Genome to Function*

**Steven Gullans**

Secrets of the Sarcomere Revealed by Transgenesis and Gene  
Transfer

**Joseph Metzger and R. John Solaro**

## Distinguished Lectureships

### Robert M. Berne Distinguished Lectureship of the Cardiovascular Section

Lecturer: **Brian Duling**, University of Virginia

Title: *Vessel-to-Vessel Signaling in Resistance Vessels:  
Who's Talking, Who's Listening?*

### Hugh Davson Distinguished Lectureship of the Cell and General Physiology Section

Lecturer: **Jens Christian Skou**, Aarhus University

Title: *Identification of the Sodium-Potassium Pump*

### Joseph Erlanger Distinguished Lectureship of the Central Nervous System Section

Lecturer: **William D. Willis, Jr.**, University of Texas

Title: *The Role of Signal Transduction Pathways in  
Central Sensitization of Spinothalamic Tract Neurons*

### August Krogh Distinguished Lectureship of the Comparative Physiology Section

Lecturer: **Donald C. Jackson**, Brown University

Title: *Living Without Oxygen: Lessons From the  
Freshwater Turtle*

### Solomon A. Berson Distinguished Lectureship of the Endocrinology & Metabolism Section

Lecturer: **Leonard S. Jefferson**, Pennsylvania State Univ.

Title: *Protein Metabolism and Its regulation by  
Hormones and Nutrients*

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

Lecturer: **Ethan R. Nadel**, John B. Pierce Laboratory

Title: To be determined

### Horace Davenport Distinguished Lectureship of the Gastrointestinal Section

Lecturer: **Irwin M. Arias**, Tufts University

Title: *The Bile Canaliculus: Biology and Pathobiology*

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

Lecturer: **Robert D. Foreman**, University of Oklahoma

Title: *Central and Autonomic Neural Mechanisms  
of Angina Pectoris*

### Carl W. Gottschalk Distinguished Lectureship of the Renal Section

Lecturer: **Dennis Brown**, Massachusetts General Hospital

Title: To be decided

### Julius H. Comroe, Jr., Distinguished Lectureship of the Respiration Section

Lecturer: **Richard C. Boucher**, Univ. of North Carolina

Title: *Mysteries of Thin Film: Airway Surface Liquid*

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

Lecturer: **Alan Kim Johnson**, University of Iowa

Title: *Parallel and Complementary Neural Mechanisms  
in the Maintenance of Body Fluid and Cardiovas-  
cular Homeostasis*

## Special Sessions and Societal Lectures

### Henry Pickering Bowditch Award Lectureship

Lecturer: **Howard Jacob**, Medical College of Wisconsin

### Walter B. Randall Lecture in Biomedical Ethics

Lecturer: **Frank Young**

### Seventh Annual Women in Physiology Mentoring Workshop

### Walter B. Cannon Award Lectureship

(supported by the Grass Foundation)

Lecturer: **Aubrey E. Taylor**, Univ. of South Alabama

### Career Opportunities in Physiology Workshop

### Public Affairs Workshop



# Experimental Biology

## Section-Sponsored Symposia

*Asymmetry of Receptor Signaling in Epithelial Cells*

**K. Amsler and P. Wilson**

*Advances in the Characterization of Na<sup>+</sup>/H<sup>+</sup> Exchanger (NHE) Isoforms*

**P. Aronson and M. Donowitz**

*Refresher Course for Teaching Cardiovascular Physiology*

**F.L. Belloni**

*Angiotensin in Normal and Abnormal Growth of Cardiovascular Tissue*

**K. Berecek**

*Postmenopausal Physiology*

**J. Cannon**

*Effect of Cardiovascular Disease on the Structure and Function of Skeletal Muscle*

**R.C. Carlsen and S.D. Gray**

*Neuroendocrine Determinants of Obesity and Satiety*

**J.F. Caro**

*Glucagon-Like Peptide (GLP) 2: Intestinal Growth Factor and Regulatory Peptide*

**C. Cheeseman**

*Controversies in Cardiovascular Physiology: What are the Primary Local Determinants of Vascular Tone?*

**W. Chilian**

*Endothelin and the Central and Peripheral Nervous System*

**D.H. Damon and C. Hinojosa-Laborde**

*Time Domains of Hypoxic Ventilatory Response: Adaptive Mechanisms in Short- and Long-Term Responses*

**T.E. Dick and G.S. Mitchell**

*Molecular Approaches to Study Cerebral Circulation: New Insight into Physiology and Pathophysiology*

**F. Faraci and D.W. Busija**

*Experimental Physiology in the Polar Regions: The Historical Development*

**G.E. Folk, Jr. and Robert Elsner**

*Peripheral and Central Mechanisms of Visceral and Somatic Pain*

**R.D. Foreman**

*Redox Regulation of Gene Expression in Hypoxia*

**M.N. Gillespie and B.A. Freeman**

*Mechanisms of Ischemia Reperfusion: Application of Gene-Targeted Animal Models*

**D.N. Granger and D.J. Lefer**

*Molecular Physiology of Urea Transporters*

**R. Gunn and J. Sands**

*Physiological Basis of Congestive Heart Failure*

**S.R. Houser**

*Phosphodiesterases in Renal Physiology and Pathophysiology*

**M. Humphreys and T. Dousa**

*Comparative Mechanisms to Survive Brain Anoxia: Mitochondria to Organism*

**P. Lutz**

*Teaching Critical Thinking Skills in Physiology: An Interactive Workshop*

**S. Mierison and A.P. McNeal**

*Transplantation Into the Next Century: Immunology, Genetic Engineering, Vascular Biology, Integrative Physiology, and Xenotransplantation*

**V. Miller and S. Saadi**

*Angiotensin Receptors and Signaling: Evolution and Perspectives*

**H. Nishimura**

*Families of Sodium-Coupled Transporters*

**A. Pajor**

*Genetic Mechanisms Determining the Role of the Kidney in the Pathogenesis of Hypertension*

**R.J. Roman and J.P. Granger**

*Physiologists and Outreach Activities Directed to Lower Primary Grades*

**J. Schadt and B.E. Goodman**

*Role of Plasmalemmal Caveolae in Signal Transduction*

**P.W. Shaul**

*Point/Counterpoint: Is Active Muscle Mass an Important Target for Vasoconstriction During Exercise?*

**C.M. Tipton**

*Mechanisms Involved in Hypoxic Pulmonary Vasoconstriction: Can Everyone be Right?*

**E.K. Weir**

*Hormonal Control of Protein Metabolism in Muscle*

**R.R. Wolfe**

## Guest Society Symposia

### Biomedical Engineering Society

*Biomaterial Design*

**D.A. Hammer**

*Mechanotransduction*

**G.A. Truskey**

### Society for Experimental Biology and Medicine

*Antioxidants and Oxidative Stress in Health and Disease*

**R. Knopp and T.M. Bray**

### Microcirculatory Society

*President-Elect's Symposium: Microcirculatory Studies of Inflammation and Immune Function*

**R. F. Tuma**

### American Society for Medical Research

*HIV Vaccine Development: Opportunities and Challenges*

**M.B. Feinberg**

*The Road to Apoptosis: Indictment, Judgement, Execution, and Reprieve*

**S. Gupta and V. Dixit**

*Translational Research in Psychiatry: From Molecular Medicine to Clinical Practice*

**J. Licinio**

*Regulation of Cellular Processes by Infectious Microbes*

**C.E. McCall**

*Beyond Chemotherapy: The Scientific Bases for New Cancer Treatments*

**P.H. Wiernik**

## Section-Sponsored Featured Topics

### *The Bile Canaliculus: Physiology and Pathobiology*

**I. Arias**

### *Insulin and Growth Factor Receptor Signaling*

**J. Avruch**

### *Regulation of the Epithelial Na Channel*

**M.S. Awayda**

### *Physiological and Molecular Responses of Peripheral Chemoreceptors to Chronic Stimuli*

**G.E. Bisgard**

### *Cytokines and Body Temperature in Health and Disease*

**C. Blatteis**

### *Cardiovascular Adaptations and Responses to Ischemia*

**J. Canty**

### *Membrane Trafficking and the Regulation of Ion Transport Proteins*

**M. Caplan and J. Lippincott-Schwartz**

### *Genetic Models and Novel Tools: Application of Physiological Genomics to the Study of Neural Control of Cardiovascular Function*

**R. Davisson**

### *Chloride Channels: Mechanisms and Physiological Functions*

**D. Dawson**

### *Glucose Uptake by Contracting Muscle*

**G.L. Dohm**

### *Use of Transgenic and Knockout Models for the Study of GI Function*

**M. Donowitz**

### *Vessel-to-Vessel Signaling in Resistance Vessels*

**B.R. Duling**

### *Mechanisms and Regulation of Epithelial Calcium Transport: Genetics Illuminating Physiology*

**P. Friedman**

### *Regulatory Peptides, Guanylin, Uroguanylin and Lymphoguanylin and Their Congate Receptors*

**L.R. Forte**

### *Role of Membrane Traffic in Epithelial Transport Regulation*

**R. Frizzell**

### *Teaching and Educational Innovation*

**J. Griswold**

### *The Gravity of Circulation*

**A. Hargens**

### *Alterations in Redox State and Cell Signaling*

**D.G. Harrison**

### *Biodiversity Prospecting: The Use of Biological Adaptations in Industrial Applications*

**M. Heath**

### *Gene Transfer to Blood Vessels*

**D.D. Heistad**

### *Cardiac Electromechanics: The Development and Validation of Whole Heart Models*

**P. Hunter**

### *Remote Monitoring of Physiological Functions*

**D. Jones and P. Butler**

### *Neurohumoral Mechanisms in the Regulation of Blood Volume and Arterial Pressure*

**T. Lohmeier and J.T. Cunningham**

### *Mechanisms of Lung Alveolar Epithelial Injury*

**T.R. Martin**

### *Raphe: Pain and Autonomic Integration*

**P. Mason**

### *Molecular and Cellular Control of Insulin Secretion*

**F.M. Matschinsky**

### *Vagal Mechanisms in Neural Control*

**D. Mendelowitz and A. Travagli**

### *Blood Volume Regulation*

**E.R. Nadel**

### *Muscle Fatigue*

**T.M. Nosek**

### *Mitochondrial Maturation and Biogenesis in Striated Muscle*

**M.A. Portman**

### *Second Messengers in Hypoxia*

**N.R. Prabhakar**

### *The Medullary Raphe: Such an Obvious Role in Respiratory Control, But What Exactly is It?*

**G. Richerson**

### *Control of Renal Function by Cytochrome P450 Eicosanoids*

**R.J. Roman and J. Imig**

### *Mechanisms of Lung Vascular Development*

**J.M. Shannon**

### *Understanding How Cells Sense Volume: New Sites and Insights*

**K. Strange**

### *Vascular Actions of Nitric Oxide Including Leukocyte-Endothelium Interactions, Vascular Permeability, and Angiogenesis*

**P. Vanhoutte**

### *The Neuroimmune Axis in Gut Inflammation: Clues to Therapy*

**J. Wallace**

### *Nongenomic Effects of the Gonadal Steroids on Vascular Function*

**R.E. White and J. Stallone**

### *Endothelial Factors in Cardiorenal Regulation*

**C. Wilcox**

### *Signal Transduction in Somatosensory Pathways*

**W.D. Willis, Jr.**

### *Regulation of Sympathetic Function by Nitric Oxide*

**J. Zanzinger**

### *Neural Circuitry of Body Fluid and Cardiovascular Homeostasis*

**Chair to be decided**

# Meetings

## Call for APS Conference Topics

The APS Conferences offer the Society membership the ultimate in programming opportunities. The organizing committee will select the theme or topic, meeting format, abstract categories, method of presentation, and duration of the meeting. APS will be responsible for all aspects of the meeting management and will provide limited financial support. In essence, the Society is simply asking you to help organize a meeting that presents the best science, and it will provide the space and work with you to obtain the resources to support you.

Listed below are more specific guidelines to follow in organizing an APS Conference. Any questions regarding the organization of such meetings should be directed to Linda Allen at the APS Office. The deadline for proposals to be considered for 2001 is February 15, 1999.

### Guidelines for APS Conference Proposals

There is no special form. Applicants may organize their proposals in whatever format they deem best. By and large, however, the information listed in these guidelines should be supplied.

Up to two Conferences will be selected annually, to be held between June and December of a given year. Selections are made in the following way: each proposal is scored and ranked by members of the Joint Program Committee (JPC) and the Program Committee (PC) of APS; a recommendation for the Conference(s) to be held is made to the Council of APS; final approval of each Conference is made by the Council. The organizer of the proposed conference must give a formal presentation at the JPC meeting, which is scheduled on the first day of the Experimental Biology meeting.

Each APS Conference should deal with a circumscribed topic, which may be narrow or broad. Although the ideal size is 300-500 attendees, there is great flexibility in this number; except under unusual circumstances, the conference should not be so large as to require the scheduling of simultaneous sessions. Organizers should consider the suitability of a multidisciplinary approach to the topic, as well as different levels of investigation that might range from molecular through systems physiology.

### Title

If possible, please include the term "physiology" or "physiological" in the title.

### Organizer(s)

An APS Conference may be organized and proposed by one or more persons. Somewhere in the application, the following information should be supplied for each organizer: name, including complete first name, not just initials; address; telephone, fax, and e-mail numbers; and a very brief biographical sketch (up to four lines), which summarizes the credentials of the organizer(s) for leading the Conference.

### Background and Rationale

What is the history of the topic? Are there particular advances in the topic that warrant an APS Conference now? When was a conference last held on this topic? Is a new or unique approach to the topic envisioned for the Conference? What is the degree of current interest in the topic; is it international in scope? Are the main "players" in this field included in the proposal?

### Dates and Location

All APS Conferences are held between June and December of a given year. The duration should be 3 to 4 days, and a Saturday stayover should be scheduled to permit low air fares. The rationale for the choice of dates and location should be explained.

APS discourages the appending of an APS Conference to a national or international meeting in order to take advantage of major personages who will already be attending the other meeting. Despite the higher cost of bringing the key investigators to APS Conferences, APS wants each Conference to stand on its own, with the clear identity as an APS-sponsored meeting.

Once a venue and dates have been selected, the APS Office in Bethesda will assume the logistical management of the Conference, publicity, and technical exhibits if appropriate.

### Sections, Specialty Groups, Other Societies

It is best, although not essential, if a proposal for an APS Conference is submitted under the auspices of one or more Sections or Special Interest Group of the Society. A multidisciplinary approach to the chosen topic is encouraged, so that it is not uncommon for a given Conference to draw participants from several Sections and Interest Groups, as well as from societies other than the APS. Primary responsibility for the Conference, however, will rest with the organizers working through APS.

### Structure

With possibly rare exceptions when a large meeting is contemplated, there should be no simultaneous sessions.

## Meetings

The reviewers can best judge the scientific merits of a proposal if a fairly detailed, although tentative, schedule is given. What subtopics are to be discussed each day? How long will the sessions last? Who will be the speakers? What will be the format of each session plenary lecture, symposium, posters, panel discussion, volunteered slide presentations, and others?

How have the invited participants been chosen? Active roles (including presentations) for young faculty, graduate students, and postdoctoral fellows are encouraged. Has due consideration been given to the inclusion of women and minorities?

For each invited participant, list full name, current position, title of presentation, and whether or not they have been contacted. A majority of the speakers to be invited should be contacted in a tentative manner, making

clear to them that final invitations are subject to the proposal being accepted by Council. Inasmuch as a proposal is prepared more than two years in advance of a Conference being held, as much as 25% of the slots can be left open to allow for later insertion of new developments and speakers.

It is very helpful to the reviewers of the proposal if a summary schedule of the proposed program is supplied (e.g., in the form of a grid/calendar).

### Financial Support

Each APS Conference is provided with \$25,000 to support the participation of the invited speakers in the Conference. If additional funds are required, it is the responsibility of the organizer(s) to raise these funds. The APS will work with the organizer(s) in

raising additional funds for approved conferences.

### Deadline

All proposals must be received in the APS Membership Services Department by February 15, slightly more than two years before the Conference is to be held. For example, a proposal for a Conference to be held in October 2000 must reach the office in Bethesda by February 15, 1999. ♦

#### *Send proposals to:*

Membership Services Department  
The American Physiological Society  
9650 Rockville Pike  
Bethesda, Maryland 20814-3991  
tel.: 301-530-7171  
fax: 301-571-8313  
e-mail: meetings@aps.faseb.org

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### *Central Nervous System*

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## Experimental Biology

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### ***Water & Electrolyte Homeostasis***

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### ***Epithelial Transport Group***

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### ***Hypoxia Group***

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### ***Members in Industry Group***

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### ***Education Committee***

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Vermillion, SD 57069

### **Guest Societies**

#### ***Biomedical Engineering Society***

Scott L. Diamond  
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Philadelphia, PA 19104-6393

#### ***Society for Experimental Biology and Medicine***

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University of Washington  
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#### ***Microcirculatory Society***

Ronald F. Tuma  
Department of Physiology  
Temple University School of Medicine  
Philadelphia, PA 19140

#### ***American Federation for Medical Research***

Linda K. Bockenstedt  
Department of Internal Medicine  
Yale University School of Medicine  
New Haven, CT 06520-8031

APS's web site was recently recognized as a featured internet site  
by the following organizations:

Uniguide Academic Guide to the Internet

<http://www.aldea.com/guides/ag/attframes2.html>

InterNIC

<http://www.internic.net>

Links 2 Go

<http://www.links2go.com>

To see what all the hype is about, just point your browser to

<http://www.faseb.org/aps>.

## Web News

### More People Are Connecting To [www.faseb.org/aps](http://www.faseb.org/aps), More Often

APS is pleased to announce that since the introduction of the APS Web Site, a little over a year and a half ago, the number of connections made to the site has risen by almost **600 percent!** With a modest beginning of 24,914 hits in January of 1997, the site's impact on the physiological community has apparently exploded with today's latest figures showing 143,763 hits in June of 1998.

APS has also noted significant increases in the number of unique hosts who have accessed the site. In January of 1997, 1,920 hosts accessed the site 27,914 times. Therefore, each host site who connected to APS accessed approximately 15 pages worth of data. In June of 1998, 5,764 hosts connected to the site 143,763 times. This means that this June, each unique host who connected to the site accessed approximately 25 pages of data. For more information on how many unique hosts are connecting to the site, see Table 1.

So what's all the excitement about? What is the APS Web Site, and what function does it serve in the Society's mission

features an Index page, and a What's New page to make finding the information you need even easier, and should it be needed, help using the page is always available by contacting the Webmaster at [webmaster@aps.faseb.org](mailto:webmaster@aps.faseb.org).

The pages of the site are divided into 10 distinct sections, each with their own focus on the affairs of the Society, and it's efforts to promote the cause of education.

About the APS, features information on the Society's governance, founders, presidents and products. Membership and Awards, features information on becoming a member and the benefits of membership and the many Society and Section sponsored awards for students through senior physiologists. Publications, features an Online table of contents, editorial, submission and subscription information for the Society's publications. Meetings, features dates, schedules, etc., for various Society and non Society sponsored meetings and conferences. Education, features program and meeting information, announcements, and educational exercises. Public

Table 1. APS Web Site Access and Utilization

	Jan. 1997	April 1997	July 1997	Oct. 1997	Jan. 1998	April 1998	June 1998
Number of Unique Hosts	1,920	2,185	2,663	4,444	5,324	6,300	5,764
Number of Connections	27,914	31,270	51,378	93,018	113,052	121,052	143,763

to provide current, usable information to the physiological community? Simply put, the site is a collection of over 300 pages of text, pictures, articles, announcements, figures and forms which are accessible to anyone with an Internet connection. Up to the minute data can be downloaded, and input can be sent directly to the Society either Online, or by E-mail. There is no charge to access any of this information. The site

Affairs, features articles and announcements of interest to the physiological community regarding governmental and animal use issues. Committees and Sections features access to and information about Committees and Sections of the Society and their leadership. Chapters, features information about and access to the Society's Chapters. Related Sites, the infamous "links of interest" page contains over 200 links to Phys-

Table 2. APS Web Site Subsections Usage Statistics

	/APS	About APS	Membership	Publications	Meetings	Education	Public Affairs	Comm. & Sect.	Chapters	Related Sites	Careers
Jan. 97	24,914	130	214	871	211	171	79	81	60	318	88
Apr. 97	31,270	142	227	844	162	133	99	80	58	324	210
July 97	51,378	216	236	1,065	200	217	102	79	103	334	281
Oct. 97	93,018	339	367	1,525	298	316	110	173	122	494	371
Jan. 98	113,052	223	390	1,898	381	356	207	113	128	441	427
Apr. 98	121,434	224	339	1,917	367	264	154	133	116	429	361
June 98	143,763	246	390	2,037	306	272	145	106	77	419	596

## Web News

iological programs, departments and resources throughout the world, and Career Opportunities in Physiology, features articles, links and a daily listing of available positions in labs and universities. For more information on usage of these subsections, see Table 2.

Currently, web surfers, not familiar with the page's URL address can locate it by using almost any of the major search engines including, Yahoo, AltaVista, HotBot, InfoSeek, Lycos, Easy Search, Internet Navigator, Metasearch, Northern Light and Magellan's Global Search Engine. This allows

even greater access to the site by anyone searching for information on physiology.

We, at the American Physiological Society, continue to strive in our mission of informing the world's physiological community, and we continue to ask for your support. If you have a comment, or question about the Site, or if you have a suggestion for something you'd like to see added to it, please E-mail [plombard@aps.faseb.org](mailto:plombard@aps.faseb.org).

Until next time, Happy Surfing! ♦

## New Searchable Web Site for Grants

The American Association for the Advancement of Science (**AAAS**) and the Howard Hughes Medical Institute (**HHMI**) recently launched GrantsNet, a searchable online database that provides up-to-date information on biomedical funding for scientists at the early stages of their careers.

During GrantsNet's inaugural week, over 2000 users registered with the site and conducted nearly 6000 searches. GrantsNet is a community resources, involving not only AAAS and HHMI, but also funding organizations from all sectors of the biomedical community. GrantsNet is **free** for all to use and will continue to remain free.

Visit the site at [www.grantsnet.org](http://www.grantsnet.org).

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How does it inform me of the information I need? Email message alerts you with citations (authors, title, journal name, volume and page) and URLs for articles that match your criteria in each journal you are tracking.

For more information, visit the general information page at:

<http://www.jn.org/help/citetrack/> or  
[www.jap.org/help/citetrack](http://www.jap.org/help/citetrack)

## Public Affairs

### APS Urges Chimp Plan Be Developed

APS has urged NIH Director Harold Varmus to implement the recommendations of a National Research Council report about how to manage the large and expensive population of chimpanzees that have been bred for medical research. In a June 18 letter, APS President L. Gabriel Navar urged Varmus to follow up on the preliminary steps already taken by NIH's National Center for Research Resources by providing "adequate authority and resources" to develop a chimpanzee management system.

The NRC study, *Chimpanzees in Research, Strategies for Their Ethical Care, Management, and Use*, was the product of a panel of experts convened under the auspices of the Institute for Laboratory Animal Research (ILAR). It was commissioned by NIH to propose solutions to the problem of an unexpectedly large population of research chimpanzees.

Chimpanzees are endangered in the wild so animals needed for research must be bred in captivity. In the mid-1980s, a major breeding program was undertaken in anticipation that many animals would be needed for AIDS research. The breeding program was more successful than expected, but the need for chimpanzees was not as great as had been anticipated. The result is a large population of animals that are expensive to care for and have long life spans. The NRC report also notes that the use of chimpanzees in research raises special issues: "Their close genetic relationship to humans, which makes them the appropriate surrogate for human-health research, also creates serious concerns about the ethics of their use by scientists and the public."

*Chimpanzees in Research*, which was issued last July, urges NIH to establish a centralized office to assume both ownership and management of a core

population of about 1,000 research chimpanzees that would be assured lifetime support by the federal government. The report suggests that through improved efficiency in the management of a smaller population, total costs can be reduced so that the fees currently charged for the use of chimpanzees in research can be eliminated. The report also suggests that there will likely be some chimpanzees that pose no health risk to humans or other animals and that are no longer needed for research or breeding. Such animals might be transferred to privately-operated sanctuaries that may be able to provide long-term care at a lower cost.

The NRC report urged a minimum five-year chimpanzee breeding moratorium and recommended that euthanasia should not be used as a general means of chimpanzee population control. ♦

### Accreditation Plans Raise Concern

FASEB has expressed its concern that a proposed change in standards for accreditation of medical education programs could be the "first steps to a uniform national accreditation process that may undermine the unique and distinctive characteristics on which many graduate programs are based."

In a June 10 letter to Association of American Medical Colleges Vice President Donald G. Kassebaum, then-FASEB President Ralph G. Yount raised concern that the proposal to change the Liaison Committee on Medical Education (LCME) standards to require "regular institutional review of graduate programs. . . .addressing the quality of education, the research and scholarship of the faculty, and the progress and achievement of the trainees. The proposal would have medical school facul-

ty participate in these reviews.

Yount said that FASEB "opposes national accreditation programs in the basic sciences on the grounds that there restrict independence and creativity in the biomedical sciences and thereby retard intellectual progress." On May 6, 1997, the FASEB Board had adopted the following position concerning national accreditation:

"The most effective review of the success of graduate programs occurs at the local level through frequent self-study and periodic reviews by knowledgeable scientists from other academic institutions and industry. To conserve resources and valuable time of faculty and administrators, redundant review by national, regional, and state accreditation bodies should be eliminated wherever possible. We oppose efforts to

introduce further accreditation at the national level, as it would be impractical because each program is unique; also, it might lead to homogeneity of programs, which is undesirable, at the expense of diversity, which is desirable."

In his letter Yount noted that much of the graduate training in basic biomedical sciences occurs in departments that are not part of a medical school, and that even biomedical departments in medical schools are usually a partnership between the school of medicine and an independent graduate school at the university. "Acceptance of accreditation standard[s] imposed by outside groups would establish an unacceptable precedent," Yount cautioned.



## Congress Makes Funding Recommendations for Research Agencies

The House Appropriations Committee on July 14 approved a bill to provide NIH with a 9.1 percent increase in FY 1999. This action ratifies the recommendation of the Labor-HHS-Education Subcommittee chaired by Rep. John Porter (R-IL). The bill calls for a \$1.24 billion increase over NIH's FY 1998 budget that would raise its funding total to \$14.862 billion. This is \$99 million more than President Clinton's request for NIH and would be the largest dollar increase in NIH's history.

The recommendation is very favorable to the NIH, but President Clinton threatened to veto the bill because it cuts \$2 billion from his education, child care, and job training initiatives. This criticism was also raised in the House by Democrats and moderate Republicans, who said they will vote against it. House Republican leaders were hopeful they could make changes in the bill that would gain enough Republican support for House passage by the end of July or early August.

Meanwhile, the Senate Labor-HHS-Education Subcommittee was not expected to draft its version of the bill until mid-September. This delay is partly due to the difficulties the panel faces in finding funds for priority programs and partly due to Senate Subcommittee Chairman Arlen Specter's (R-PA) recovery from heart bypass surgery. Specter checked himself into the hospital at the end of May complaining of chest pains, then underwent bypass surgery on June 1 and returned to work five weeks later. Specter has since said that his goal is to provide NIH with a \$2 billion increase.

### NSF Funding Measure Moves Steadily

Congress has made steady progress on the legislation that funds the NSF, VA, and NASA. Both the House and Senate Appropriations Committees have completed action on the bill and it was expected to come to the floor of both houses by mid to late July.

For the NSF as a whole, the Senate Appropriations Committee provided a

6.3 percent increase and a 7 percent increase for Research and Related Activities (R&RA) within NSF. That would mean \$3.644 billion for NSF overall and \$2.725 billion for R&RA. The House Appropriations Committee provided 7.8 percent increase for NSF as a whole (\$3.697 billion) and a 10.6 percent increase for Research and Related Activities (\$2.815 billion). For FY 1998, NSF is funded at \$3.429 billion, with \$2.546 billion of the total going to R&RA.

For VA Medical and Prosthetic Research, the Senate Committee recommended \$310 million (a 14 percent increase), and the House Committee recommended \$320 million (an 18 percent increase). The FY 1998 level for this program is \$272 million.

The large House Committee increases in both NSF's R&RA and in VA medical research were due to an \$80 million amendment by Reps. Rodney Freylinghuysen (R-NJ) and Mark Neumann (R-WI) that was approved during

**Table 1. FY 1999 Appropriations for NIH, NSF, VA Medical Research and Percentage Increases Over FY 1998 (Dollars in millions)**

Agency	FY 1998 (current)	President's FY 1999 Request	FASEB FY 1999 Recommend- ation	House Comm. FY 1999 Action	Senate Comm. FY 1999 Action
NIH	\$13,622*	\$14,763 +8.4%	\$15,695 +15.0%	\$14,862 +9.1%	expected in September
NSF (total)	\$3,429	\$3,773 +10%	\$3,772 +10%	\$3,697 +7.8%	\$3,644 +6.3%
Research and Related Activities	\$2.546	\$2,847 +11.8%	no separate recommendation	\$2,815 +10.6%	\$2,725 +7%
VA Medical & Prosthetic Research	\$272	\$300 +10.3%	\$300 +10.3%	\$320 +18%	\$310 +14%
NASA Office of Life and Microgravity Sciences	\$249	\$240	\$299	\$261.5	\$242

\*Reflects administration's shifting of funds to address Year 2000 computer problems and initiatives to combat bioterrorism

## Public Affairs

full Committee markup. By changing the ceilings on FHA loans, Freylinghuysen and Neuman were able to add \$70 million to NSF R&RA and \$10 million to VA medical research. However, there was concern that the amendment might be deleted when the measure was brought to the House floor because it made legislative changes on a funding bill, which is against House rules.

The NASA life sciences program got a boost in the House version of the bill, but not in the Senate. The House bill would provide NASA's Office of Life and Microgravity Sciences with \$261.5 million in FY 1999, compared with its FY 1998 funding level of \$249 million. The Senate version provides only \$242 million. The FASEB consensus conference on FY 1999 funding recommended that the \$50 million life sciences "Research and Analysis" competitive grants program be doubled and that additional life sciences flight opportunities be made available due to space station construction delays. The House panel added \$21.5 million to the life and microgravity sciences program, specifying that \$6.5 million be spent on

space radiation research and that \$15 million be used to add shuttle missions addressing the life sciences. In its report language, the House Committee noted that as things now stand, there may be "a significant gap of seven to nine years" between life sciences missions that will make it difficult to keep the best scientific minds involved in the field.

### **Budget Questions Await Resolution**

These early Congressional actions on research funding were seen as particularly favorable because the Appropriations Committees had to proceed with their work even though final decisions had not yet been made on the overall shape of next year's federal budget. There was considerable confusion because early on, it was being predicted that this year's expected budget deficit would turn out instead to be a surplus. However, since no agreement had been reached to use a windfall surplus for increased federal spending, the appropriators had to work within the restrictive framework of spending caps set down in the last budget agreement.

If a budget agreement is reached that makes additional discretionary

funds available, Congress may be able to add back funds to programs that were cut to make research funding increases possible. Final decisions on funding levels are not likely to come before September, when Congress will face a crunch to complete its work so that Members can campaign for the November election. The decision making process is expected to be accompanied by much partisan maneuvering within Congress and between the Republican-dominated Congress and the Democratic White House. Current plans are for Congress to adjourn by October 9.

Hopes of tobacco settlement legislation leading to an NIH research trust fund ended on June 17 when the Senate decisively sent the bill sponsored by Sen. John McCain (R-AZ) back to committee. During the feverish activities in the days leading up to June 17, numerous amendments seemed likely to whittle away at the trust fund, which at one time was seen as possibly yielding up to \$25 billion over 10 years. Although there has been talk in both the House and Senate of passing a more modest tobacco bill, Clinton has indicated that he would veto such legislation. ♦

## **Colwell and Lane Nominations Progressing Through Senate**

Rita Colwell was confirmed by the Senate on May 22 as Director of the National Science Foundation. Colwell is the former head of the University of Maryland Biotechnology Institute. She had already been nominated as Deputy

Director of the NSF, which helped her confirmation move quickly.

Colwell succeeds Neal Lane, who has been nominated by President Clinton to become Presidential Science Advisor and Director of Office of Sci-

ence and Technology Policy. Lane's appointment for the latter position requires Senate confirmation, which is still pending. ♦

<b>OPRR Workshops on the Humane Care and Use of Laboratory Animals</b>	
<b>Performance Standards and IACUC'S Role</b>	<b>Pain and Distress Management</b>
<b>September 24-25, 1998</b>	<b>November 4-5, 1998</b>
<b>Ithaca, NY</b>	<b>Washington, DC</b>

Contact:  
John C. Newton  
Conference Planner  
Cornell University  
Ithaca, NY

Tel: 607-255-3022

Contact:  
Ms. Marilyn Principe  
Center for Alternatives to Animal Testing  
Johns Hopkins University  
Baltimore, MD

Tel: 410-223-1617

### Initiatives Supporting Quantitative Approaches to Complex Biological Problems

The National Institute of General Medical Sciences (NIGMS) of NIH announced five related initiatives that seek to promote quantitative, interdisciplinary approaches to problems of biomedical significance, particularly those that involve the complex, interactive behavior of many components.

The initiatives, published as program announcements in the *NIH Guide for Grants and Contracts*, resulted in part from recommendations made at workshops held in late 1997 on "New Approaches to the Study of Complex Biological Processes" and "The Genetic Architecture of Complex Traits." The reports of these workshops can be found on the NIGMS Web Site at <http://www.nih.gov/nigms/news/reports/complexbio.html> and at [http://www.nih.gov/nigms/news/reports/genetic\\_arch.html](http://www.nih.gov/nigms/news/reports/genetic_arch.html).

The workshop participants recommended three classes of initiatives:

1) The support of interdisciplinary research with the specific objective of attracting investigators trained in the mathematically based disciplines (physics, engineering, computer science, applied mathematics, and chemistry) to the study of biomedical problems.

2) The development of workshops and other vehicles to train established biomedical scientists in new, quantitative approaches to their fields of study, and reciprocally, to acquaint established, mathematically expert non-biologists with biological problems.

3) The promotion of interdisciplinary training for scientists at the pre- and postdoctoral levels.

The initiatives and the Web sites where the full text of each program announcement can be found are listed below:

Supplements for the Study of Complex Biological Systems ([http://](http://www.nih.gov/grants/guide/pa-files/PA-98-024.html)

[www.nih.gov/grants/guide/pa-files/PA-98-024.html](http://www.nih.gov/grants/guide/pa-files/PA-98-024.html))

Quantitative Approaches to the Analysis of Complex Biological Systems (<http://www.nih.gov/grants/guide/pa-files/PA-98-077.html>)

Genetic Architecture of Complex Phenotypes (<http://www.nih.gov/grants/guide/pa-files/PA-98-078.html>)

Fellowships in Quantitative Biology (<http://www.nih.gov/grants/guide/pa-files/PA-98-082.html>)

Short Courses on Mathematical and Statistical Tools for the Study of Complex Phenotypes and Complex Systems ([http://www.nih.gov.grants/guide/pa-files/PA-98-083.html](http://www.nih.gov/grants/guide/pa-files/PA-98-083.html))

Inquiries are welcome, and should be directed to the contact people listed in the program announcements. ♦

### USDA Efforts Boost Animal Dealer Compliance

Animal dealers' compliance with federal record-keeping requirements has increased dramatically thanks to concerted enforcement efforts by the USDA.

The 1990 amendments to the Animal Welfare Act (AWA) require random-source or Class B animal dealers to keep ownership records on all dogs and cats they sell for research. The amendments took effect in 1992. However, in FY 1993, USDA inspectors who examined dealer records were able to contact the original owners of only 40% of the random-source dogs and cats that had been sold to research institutions. Animal activists responded with renewed charges that dealers were

selling stolen dogs and cats to research labs. Researchers complained that a handful of dealers were giving everyone a bad name and criticized USDA's Animal and Plant Health Inspection Service for not enforcing the regulations.

Since then, USDA has undertaken concerted enforcement efforts aimed at improved dealer compliance. These included levying significant fines against dealers whose records were incomplete or inaccurate, followed by multiple repeat inspections. USDA then initiated actions to suspend or revoke the licenses of dealers who continued to violate the law. As a result, the number of Class B dealers declined from 104 in FY 1993 to 36 active dealers at the end

of FY 1997. USDA's ongoing trace-back audits showed 95% accuracy of dealer records in FY 1997, and "an impressive 100 percent" success rate in tracing back random-source dogs and cats for the first part of FY 1998, according to USDA Assistant Secretary Michael Dunn.

The March 1998 issue of the animal activist monthly *Animal People* also took note of the effectiveness of USDA's enforcement efforts. An article headlined "Latest Numbers on Pet Theft" stated that implementation of the 1990 AWA amendments aimed at halting so-called pet theft "appear to have virtually halted thefts for laboratory use." ♦

## Education

### APS Women in Physiology Committee Holds Mentoring Program Luncheon

The APS Mentoring Program for Women in Physiology sponsored its sixth annual function highlighting the APS Mentoring Program at Experimental Biology '98 in San Francisco, CA. The mentoring program is sponsored by the APS Women in Physiology Committee, chaired by Kim Barrett, University of California, San Diego, and coordinated by the APS Education Office.

In past years, participants of the mentoring program — mentees, mentors, and other interested persons — attended a reception. However, this year the Women in Physiology Committee opted to try a new format and planned a luncheon instead, hoping to promote even better opportunities for networking and communication between junior and senior physiologists. The luncheon was highly successful. All tickets for the event were requested by students and APS members prior to EB, and on the day of the luncheon, more people waited in the hallway for extra seats to become available in an audience of nearly 100 attendees.

The luncheon provided an informal environment for interested individuals to learn about the value of the mentoring program and how to participate. Current participants were

able to meet each other face to face, and Committee members were available to answer questions and discuss issues with meeting attendees.

The luncheon speaker, Alice R. Villalobos, of the University of Connecticut, offered sound advice, focusing on the transition graduate students must make as they become post-doctoral fellows, while pointing out that transitions take place throughout one's career and lifetime. After her comments, Villalobos then opened the floor to questions. Marsha Lakes Matyas, APS Education Officer, also presented general information about the program's goals and operation and a brief summary of program statistics.

The mentoring program accepts new applications from potential mentors and mentees on an ongoing basis. New matches between mentors and mentees are formed twice annually. Application forms are available by contacting Marsha Lakes Matyas in the APS Education Office at 301-530-7132 or [mmatyas@aps.faseb.org](mailto:mmatyas@aps.faseb.org), or by going to the APS website at <http://www.faseb.org/aps/educatn/mentor1.htm>. Questions can also be directed to members of the Women in Physiology Committee. ❖

### '97 SRTs and Research Hosts Honored at Luncheon

The '97 Student Research Teachers who participated in Frontiers in Physiology and Explorations in Biomedicine programs and their research hosts were honored at a luncheon on Tuesday, April 21 at EB '98 in San Francisco.

The 29 teachers and their research hosts who participated in the two programs were feted at lunch and honored with a certificate of participation in the APS programs. Teachers and researchers were also given an opportunity to tell APS Council and Education Committee members attending the luncheon of the benefits they and their students received as a

result of their summer research experience.

Many teachers said the program made them "better" teachers by providing them with the skills and resources they never had before. Work in the research laboratory taught them scientific content and technical skills while they networked with scientists. The week-long Summer Retreat provided them with pedagogical skills and networking with teacher colleagues that further enriched their summer experience. As one teacher said, as a result of her experience, "My kids (students) are hooked on science." ❖

1997 SRTs gather for a final photo at the end of their fellowship.





### APS Award Winners at International Science and Engineering Fair

The American Physiological Society presented four awards for excellence in the physiological sciences to high school students participating in the Intel International Science and Engineering Fair (ISEF), May 10-16, 1998 in Fort Worth, TX.

Three seniors and one sophomore walked away with the APS awards. The First Award of \$500 was presented to Jennifer S. Yip, 17, a senior at Fox Chapel Area HS in Pittsburgh, PA for her project, *Guidance Cues for Axon Outgrowth*.

Honorable Mention awards of \$250 each were received by Efrat Lelkes, 17, a senior at Nicolet HS in Glendale, WI for her project, *Hyperglycemia Induces Biochemical and Functional Alterations in Cultured Neural Crest-Derived PC12 Cells: A Novel Cellular Model for Diabetic Neuropathy*; Anne-Lise Quach, 17, a senior at Upper Arlington HS in Arlington, OH, for her project, *Analysis of the Morphological, Functional, and Molecular Effects of the Regenerating Hydra Peptide on Mammalian Cells*; and Neil Uday Desai, 16, a sophomore at Dunbar HS in Fort Worth, TX, for his project, *Space Born: Gravity Affects Sensory System Development*.

In addition to receiving the cash awards, the students also received a certificate, a subscription to *News in Physiological Sciences*, an APS tee-shirt, literature on the APS educational programs, and information about careers in physiology.

The APS Selection Committee was coordinated by APS member George Ordway from the Department of Physiology at the University of Texas, Southwestern Medical Center in Dallas. All members of the APS Selection Committee were from the University of Texas, Southwestern Medical Center. Other members of the judging team included: Henry Zot and Robert Grange, also from the Department of Physiology; Wax Wynn and Eva Chin from the Department of Internal Medicine; and Carl Schulman from the Department of Surgery.

The students who won the APS awards were among more than 1,100 students from 47 states, the District of Columbia, American Samoa, Puerto Rico, the Virgin Islands, and 28 foreign countries, who participated in the 49th ISEF. The four students who were selected for the APS award were chosen from among a pool of nearly 350 projects that had some relationship to phys-

iology. All projects were reviewed by judging team members who then identified those projects which most directly related to the physiological sciences. More than 20 students were interviewed by the judges in order to select the four awardees.

The ISEF is the "World Series" of science fairs. It is the culmination of thousands of science fairs nationwide. Students participate in school and regional fairs before being selected to attend the ISEF.

APS is one of more than 50 professional organizations and governmental agencies that present special awards to students at the ISEF. The APS has presented special awards for excellence in physiology research since 1991.

Each year the ISEF is located in a different city. The APS works with local members in the host city to assist in judging for the APS awards presented at each ISEF. Next year, the ISEF will be in Philadelphia, PA, from May 2-8.

The awards to high school students at the ISEF are only one of many ways in which the APS supports science education. For more information about APS Education Programs, e-mail: [educatio@aps.faseb.org](mailto:educatio@aps.faseb.org) or visit our Web site at : [www.faseb.org/aps/educatn](http://www.faseb.org/aps/educatn). ♦



The APS judging team at the 1998 ISEF in Fort Worth, TX. From l to r, front row: R. Grange, E. Chin, and P. Edelman. Back row, l to r: H. Zot, M. Wynn, G. Ordway, and C. Schulman. (Photo by Focus One)



APS Education Program Administrator P. Edelman presents the APS awards to students at the ISEF. From l to r: J. Yip, A-L. Quach, E. Lelkes, and N. Desai. (Photo by Focus One)

## Education

### EB '98 Hosts Teachers and Students from San Francisco Area

More than 25 teachers and 40 of their students from high schools in the San Francisco Bay area attended the Life Sciences Teacher/Student Workshop on Monday, April 20 at Experimental Biology '98. The teachers and students were joined by the two dozen

sented by Martin Frank, APS Executive Director. Frank described the educational background of physiologists, and the career choices and salary levels within the field.

Emily Holton, Chief, Gravitational Research Branch at the NASA-Ames

students and teachers during lunch. APS members discussed how their education and interests led them to careers in physiology. They also explained some of the posters and the exhibits to the teachers and students from the Bay area. Teachers, students, and APS mem-



Bay area students gather data on the effects of exercise and rest on heart rate.



1997 Summer Research Teacher Dan McGee, Lamar, MT, discusses his lab activity on diet analysis.

'97 Summer Research Teachers who were attending EB '98.

Teachers and students attended a morning general session, followed by lunch with a physiologist who highlighted poster sessions and exhibits for them. In the afternoon, separate sessions were held for teachers and students.

The morning presentations began with "The World of Physiologists" pre-

Research Center followed with a presentation on how "Gravity Shapes Life." Participants observed how the low gravity environment in space physiologically affects humans, animals, and plants. Holton also discussed her educational background and the professional positions she held that led her to career at NASA.

More than 20 APS members served as host/tour guides to small groups of

bers once again gave high ratings to this part of the workshop day.

After lunch, students were engaged in a hands-on activity led by APS members and Local Outreach Team leaders, C. Subah Packer of Indiana University School of Medicine, Indianapolis, Norman Weisbrodt of the University of Texas Medical School in Houston, and Robert Carroll of East Carolina University in Greenville, NC. Nancy Palaez,



Students prepare their research poster to present to the group.



Workshop leaders Robert Carroll, Nancy Palaez, C. Subah Packer, Barbara Goodman, and Norman Weisbrodt prepare to share New Frontiers in Physiology with students.

## Education

'93 SRT assisted with these activities.

Teachers, meanwhile, explored laboratory activities on diet, cardiovascular physiology, and animal behavior developed by three of the '97 SRTs for their classrooms. During their summer research experience, Dan McGee from Lame Deer, MT, worked with Gregory

L. Florant at Colorado State University in Fort Collins; Lynette Low from Honolulu, HI worked with Catherine F.T. Uyehara and John R. Claybaugh at Tripler Army Medical Center; and Jeanne Wenndorf from Renton, WA., worked with Michael P. Hlastala at the University of Washington in Seattle.

All three activities can be found at the APS Web site noted below.

The workshop was sponsored by the APS Education Committee, chaired by Barbara Goodman of the University of South Dakota School of Medicine in Vermillion and is supported by the APS and grants from NIH and Merck, Inc.

### New Teacher-Developed Activities on the APS Education Web Page Point your browser to:

<http://www.faseb.org/aps/educatn/frontact.htm>

## APS Teaching Career Enhancement Awards

### Statement of Purpose:

The APS Teaching Career Enhancement Awards are designed to enhance the career potential of regular members. The awards will provide up to \$4,000 to allow individuals to develop innovative and potentially widely applicable programs for teaching and learning physiology. The awards can be used to support short-term visits to other schools to consult with experts who can assist with the development project or attendance at special courses devoted to methodologies appropriate for the educational development project.



### Application Procedure:

Candidates who are regular members in good standing may submit an application form including the following: 1) a two-page description of the proposed project, including the aim, the educational problem that the project is designed to ameliorate, identification of the innovative aspects, a plan to evaluate the educational outcomes, and the kinds and sources of expertise needed by the applicant to carry out the project; 2) an anticipated budget with justification for requested funds; 3) a letter of support from the applicant's department chair or other appropriate individual; 4) letters of agreement from individual or departmental hosts of schools to be visited; 5) description or outline of courses to be attended; and 6) a brief curriculum vitae focused on activities and achievements related to education.

### Deadlines and Contact Information:

**Deadlines: April 15 and October 15.** Successful applicants are expected to report, in print or at a physiology conference, a description of the project and its evaluation. Awardees are encouraged to submit such reports for publication in *Advances in Physiology Education*. For an application form, please contact Martin Frank, Executive Director, American Physiological Society, 9650 Rockville Pike, Bethesda, MD 20814-3991. Tel: 301-530-7118; fax: 301-571-8305; e-mail: [awards@aps.faseb.org](mailto:awards@aps.faseb.org); Internet: <http://www.faseb.org/aps/awards.htm>.

## Section News

### Introducing...Robert B. Gunn

Robert B. Gunn, Chair and Professor of Physiology at Emory University School of Medicine, was elected Chair of the Cell and General Physiology Section and took over from outgoing Chair, Paul DeWeer, at the April 1998, Experimental Biology meeting. He had been the first Program Officer of the Section 15 years ago.

Gunn was born and raised in Washington, DC and received his BS in biophysics from the University of Michigan in 1961. He received his MD from Harvard Medical School in 1966 where he worked with the late Clifford Barger on renal blood flow, the late Peter F. Curran on ion transport, and with David Nathan on thalassemic red cells. He took a medicine internship at the Beth Israel Hospital, Boston, for one year before going to the Biometry Branch of the National Institutes for Mental Health for two years to work on mathematics of transport with Clifford S. Patlak. He went to Duke University for postdoctoral training with Daniel C. Tosteson before joining the faculty there. He then spent a year at the Institute for Biophysics at the University of Copenhagen collaborating with the late Jens O. Wieth. In 1976 he moved to the University of Chicago as Associate Professor and in 1981 took the Chair at Emory.

In addition to his work with the Cell and General Section, Gunn was a member of the Education Committee of APS for 8 years and Chair of the Audio-visual Production Subcommittee for 4 years. He has been an Associate Editor of *American Journal of Physiology: Cell Physiology* for 17 years. Gunn has been treasurer and the President of the Society of General Physiologists and treasurer of the Biophysical Society and has served on the FASEB Finance Committee as well as on the late Physiology Study Section at NIH.

Gunn's research is in the area of the molecular mechanisms of anion transport. He contributed some of the first

evidence that chloride-bicarbonate transport was mediated by a carrier mechanism in erythrocytes. Band 3 or the anion exchange protein (AE1) is the major membrane protein in red cells and the fastest known carrier ( $3 \times 10^5$  ions per site per second). His laboratory



Robert B. Gunn

was among the first to show that this was an electrically silent, one for one exchange mechanism having ping-pong kinetics. Gunn's titratable carrier model to explain the opposite pH dependencies of the fluxes of sulfate and monovalent anions on AE1 has been used in several other laboratories as the basis for new experiments. Gunn's recent work on the expression of AE1 using an inducible promoter in a permanent mammalian line (HEK293) allows measurement of chloride trace fluxes in a system with sufficient copies of the protein in the plasma membrane to be amenable to both structural and mutational analysis. Research in Gunn's laboratory first measured the extracellular and intracellular transport kinetics of sodium-lithium counter-transport and the first to demonstrate sodium-phosphate cotransport in red cells and to provide evidence of a relationship between these two mechanisms. Gunn and colleagues also were the first to show saturation kinetics for urea trans-

port and that individuals without the Kidd antigen on their red cells were lacking mediated urea transport. Currently they are working on the several splice isoforms of both the renal and erythrocyte urea transporter genes and their functional expression in cultured cells.

Gunn's plans for the Section include continuing the tradition of having the most prominent scientist give the Hugh Davson Distinguished Lecture. Following in the example of E. Neher in 1997 and A.F. Huxley in 1998, Jens Christian Skou, the 1997 Nobel Prize winner in Chemistry, will give the Distinguished Lecture at Experimental Biology in 1999 in Washington, DC. At the first meeting of the new Steering Committee there was discussion of the Section's name and the general notion that very few members knew that General Physiology was the application of mathematics, chemistry, and physics to physiologic problems. So the Section Steering Committee voted on a new name and petitioned the Section Advisory Committee and Council of APS to change its name to the Cell and Molecular Physiology Section. Gunn and the other Steering Committee members (Martha O'Donnell, Simon Lewis, Chip Montrose, Pete Cala) also plan to undertake a concerted effort to raise funds from industry to support several awards: graduate student and postdoctoral fellow awards for the best posters, junior faculty awards for a specific contribution and an award for a career of contributions to cell and molecular physiology.

It is hoped that by more regular newsletters and e-mailings, the section members will feel included in the operation of the Section, will contribute to the programming at the EB meetings and other specialized conferences, and will submit abstracts to the Section's topical area, minisymposia, and related themes. ❖



## Chapter News

### Inaugural Meeting of the Nebraska Physiological Society Held

The first meeting of the newly formed Nebraska Physiological Society (NPS) was held at the University of Nebraska Medical Center in Omaha, Nebraska on Saturday, May 16, 1998. NPS was formed in 1997 as a Chapter of the American Physiological Society. The mission of NPS is to foster interdisciplinary interaction among researchers and educators interested in the physiological sciences in the state of Nebraska. A steering committee was responsible for planning the first meeting and for the initial administrative organization of the society. The steering committee also served as a nominating committee for officers of the society. The steering committee consisted of Irving H. Zucker, University of Nebraska College of Medicine; Daniel C. Marcus, Boys Town National Research Hospital and Creighton University; Philine Wangemann, Boys Town National Research Hospital and Creighton University; and Shaymal K. Roy, University of Nebraska College of Medicine. Administrative assistance was provided by Cindy Norton of the Department of Physiology and Biophysics of University of Nebraska College of Medicine.

Approximately 50 faculty and students participated in this meeting. Participants represented nine different departments from five institutions. Prior to convening the meeting a continental breakfast was provided to participants in the lobby of the Eppler Cancer Institute. The breakfast was kindly provided by Fisher Scientific, Inc. The organizers are indebted for their contribution to the NPS meeting. The meeting opened with introductory remarks and a welcome by Irving H. Zucker, Professor and Chairman of the Department of Physiology and Biophysics. Immediately following these remarks,

the keynote address was presented by James A. Schafer, Professor of Physiology and Biophysics at the University of Alabama at Birmingham College of Medicine and Past President of NPS thanks APS for providing the funding for Schafer. Schafer gave an outstanding talk entitled, "Renal Salt Reabsorption and the Control of Blood Pressure." This talk was highly relevant to the eclectic group of participants since it focused on the molecular events that control sodium reabsorption, renal function and arterial pressure from both the human genetics and the experimental standpoints.

Following Schafer's talk a "poster synopsis" session was held. This unique idea was instituted in order to orient participants on the wide array of posters to be presented in the afternoon. Each poster presenter was required to provide a broad overview of his/her research using only one overhead. Each presenter was given two minutes to present a synopsis of their work. This component of the meeting lasted approximately 90 minutes. A buffet lunch was then provided to participants in the Eppler Cancer Center lobby. During this time participants interacted on an informal basis until the business meeting component began. During the business meeting, Schafer presented an overview of various programs supported and sponsored by APS as well as a synopsis of recent events involving FASEB and graduate education. Election of officers was the next order of business. The following officers were elected by acclamation: PRESIDENT: Irving H. Zucker, University of Nebraska College of Medicine; PRESIDENT-ELECT: Philine Wangemann, Boys Town National Research Hospital; SECRETARY: Daniel C. Marcus, Boys

Town National Research Hospital; TREASURER: Shaymal K. Roy, University of Nebraska College of Medicine; COUNCILLORS: Pamela K. Carmines, University of Nebraska College of Medicine; David H. Petzel, Creighton University School of Medicine and Thomas E. Pisarri, Creighton University School of Medicine. A brief treasurer's report was presented by Roy. The remainder of the business meeting consisted of a discussion of changes in future formats for the NPS meeting and novel ways of generating financial resources for the society.

The poster session was held in the spacious lobby of the Out Patient Care Center which is adjacent to the University Hospital. Thirty-five posters were presented. The research that was presented represented studies ranging from the molecular basis for M3 receptors mediating potassium secretion in the inner ear to the effects of fluid replacement on human endurance performance. Participants were able to leisurely view and discuss those posters which were of interest to them. Posters were left in place until approximately 3:00 PM. Most participants considered the meeting highly successful and rewarding.

Starting in the fall, the officers and councillors will begin the planning process for the second meeting of the NPS. Details of the NPS and pertinent information can be found at our website: <http://www.boystown.org/nps>. ❖

Irving H. Zucker  
President,  
Nebraska Physiological Society  
[izucker@mail.unmc.edu](mailto:izucker@mail.unmc.edu)

## Chapter News

### Meeting of the Midwest Physiological Societies

The Midwest Physiological Societies held their annual meeting on June 1 and 2, 1998 at the Medical College of Wisconsin in Milwaukee. There were 95 in attendance, all from Wisconsin, Minnesota, and Illinois.

The three scientific sessions were all initiated by a one hour keynote address. Allen Cowley, Professor and Chairman, Department of Physiology, Medical College of Wisconsin spoke on "The Central Role of Physiology in Phase II of the Human Genome Project." Eric Olson from the Department of Molecular Biology and Oncology, University of Texas, Southwestern Medical Center in Dallas, Texas spoke on "Transcriptional Control of Cardiovascular Disease and Development," and Ingrid Sarelius from the Department of Physiology and Pharmacology, University of Rochester Medical Center gave her keynote address on "Mechanisms Coupling Blood Flow to Metabolism in Microvascular Networks."

The scientific sessions featured twenty-six 10 minute oral presentations and 27 poster presentations. Twenty-three of the oral presentations were by

graduate students or postdoctoral fellows, and each of the three sessions was co-chaired by trainees or junior faculty. Of the poster presentations, 20 were presented by trainees, and the remainder by senior investigators.

Thanks to a generous gift by the Merck Corporation, ten \$100 awards could be provided for outstanding presentations by trainees. The recipients were: Heather Stefaniak, Department of Biology and Microbiology, University of Wisconsin-LaCrosse; Ron Gerrits, Department of Physiology, Medical College of Wisconsin; Zhilin Song, Department of Physiology, Chicago Medical School; Jay K. Herman, Department of Comparative Bioscience, University of Wisconsin-Madison; Xupei Huang, Department of Physiology, University of Wisconsin-Madison; Keith Baar, Department of Physiology and Biophysics, University of Illinois; Satoshi Takida, Department of Pharmacology, University of Minnesota-Duluth; Brigid Dineen, Department of Kinesiology, University of Illinois; Anne Kwitek, Department of Physiology, Black-Medical College of Wisconsin; and Michelle Vanderhey-

den-Medical College of Wisconsin & Children's Hospital.

In addition to the scientific sessions, there was a Careers in Physiology Workshop for undergraduate students and their mentors and a hands-on display of computer-based programs for teaching of physiology. Speakers for the Careers in Physiology workshop included Hubert Forster, director of the graduate program at the Medical College of Wisconsin; Kathryn Gauthier, University of Wisconsin-Milwaukee; and Martin Frank, Executive Director of the APS. The display of computer-based teaching programs for Physiology was organized and coordinated by Kim T. Fredricks of Viterbo College, LaCrosse, Wisconsin.

The social highlight of the meeting was the tailgate party and Milwaukee Brewer baseball game. In spite of a Brewer defeat by the Braves, it was a very enjoyable evening.

Jerry Bisgard will organize next year's meeting at the University of Wisconsin in Madison, and Celia Sladek will host the 5th annual meeting in Chicago in two years. ❖

### PRAT Fellowships for Postdoctoral Scientists at the NIH

The Pharmacology Research Associate (PRAT) Program of the National Institute of General Medical Sciences (NIGMS) sponsors postdoctoral fellows conducting research at the NIH in the pharmacological sciences. This can include research in the areas of signal transduction, drug metabolism, immunopharmacology, chemistry and drug design, structural biology, endocrinology, neuroscience, clinical pharmacology, among other areas. Potential fellows make an application together with a preceptor to the PRAT Program. Selected fellows receive a two-year appointment, salary, supplies and travel funds from the NIGMS to support research in the preceptors' laboratories. Candidates may apply prior to coming to NIH or FDA, or they may have started postdoctoral research at NIH or FDA within the 12-month period prior to the application receipt deadline. Applications are due on or before January 5, 1999 for the fellowships starting in October of that year. Only U.S. citizens or permanent residents are eligible. Contact the PRAT Program Assistant at 301-594-3583 or [prat@nigms.nih.gov](mailto:prat@nigms.nih.gov) to request a PRAT Fact Sheet and an application kit, or visit the NIGMS home page at [http://www.nih.gov/nigms/about\\_nigms/prat.html](http://www.nih.gov/nigms/about_nigms/prat.html) to view the PRAT Fact Sheet.

## Positions Available

### Coordinating Editor Position Applications Being Accepted for New Journal

*Physiological Genomics*, a new research journal published by the American Physiological Society, has an immediate need for a Coordinating Editor to be based in Boston, MA. Responsibilities include:

- ✕ recruitment of articles through direct contact with the scientific community
- ✕ writing of research commentaries, editing and proofreading copy
- ✕ coordinating the receipt and review of manuscripts
- ✕ close coordination with authors, editors, and publisher
- ✕ representation of the journal at scientific meetings

The ideal candidate will possess an advanced degree in the biomedical sciences or science journalism or closely related discipline, 2-6 years related work experience, excellent writing skills to communicate complex concepts clearly and strong editorial and interpersonal skills.

Brigham and Women's Hospital/Harvard University and the American Physiological Society offers an outstanding compensation and benefits package. Please forward your resume, writing sample and salary requirements to: Dr. Victor Dzau, Editor-in-Chief, *Physiological Genomics*, c/o The American Physiological Society, Publications Department, 9650 Rockville Pike, Bethesda, MD 20814-3991.

### Call for Nominations: the Editorship of *Journal of Applied Physiology*

Nominations are invited for the editorship of *Journal of Applied Physiology* to succeed John E. Remmers, who will complete his term as Editor on June 30, 1999. The Publications Committee plans to interview candidates in the Fall of 1998.

Applications should be received before **October 15, 1998**.

Nominations, accompanied by a curriculum vitae, should be sent to the chair of the Publications Committee, Leonard R. Johnson, Publications Department, American Physiological Society, 9650 Rockville Pike, Bethesda, MD 20814-3991. ❖

**Human/Mammalian Physiologist.** Tenure-track position available August 1998. PhD required in human or mammalian physiology and an active research record in organ, cellular, or molecular physiology. Responsibilities include teaching introductory human physiology and team teaching applied physiology and pathophysiology. Development of a research program is expected. Send letter of application; curriculum vitae; and names, addresses, and phone numbers of three references to: Dr. Anthony M. Garcy, Search Committee Chair, Department of Biological Sciences, Chicago State University, 9501 S. King Drive, Chicago, IL 60628-1598. Review of applications will begin upon receipt and continue until position is filled. Chicago State University is an Affirmative Active/Equal Opportunity Employer. Women and minorities are encouraged to apply.

**Postdoctoral Position.** An NIH-supported position is available to study regulation of ion transport in gastrointestinal epithelia using patch-clamp and imaging techniques. Experience with either patch-clamp recording or imaging of fluorescent dyes is preferable. The Department of Physiology and Biophysics at Wright State University offers an excellent training environment, providing interactions with related labs studying ion channel/transporter structure and regulation. Interested persons should send a curriculum vitae, including a statement of your research interests, along with names and addresses of three references to: Dan R. Halm, PhD, Wright State University, Department of Physiology and Biophysics, 3640 Colonel Glenn Hwy, Dayton OH 45435. Fax: 937-775-3769; e-mail: dhalm@wright.edu. Review begins 8/14/98. [EOE/AA]

## Positions Available

**Postdoctoral Research Fellow.** An NIH-funded postdoctoral position for US citizens or permanent residents is available immediately in the Center for Cardiovascular Research at Washington University School of Medicine to study gap junctional conductance in cardiac myocytes derived from connexin-deficient and -overexpressing animals and in transfected cells. The candidate must have demonstrated expertise in whole-cell patch-clamp techniques and single-channel recordings. He/she will work closely with members of a multidisciplinary group (using extracellular mapping, optical mapping, telemetry, confocal immunofluorescence microscopy, etc.) to investigate the role of connexins in myocardial conduction and arrhythmogenesis under a variety of pathophysiological states including ischemia and hypertrophy. Qualified applicants with training in electrophysiology are invited to send a cover letter describing their research experience and career goals, curriculum vitae, and three letters of recommendation from senior individuals familiar with their work who will comment on the applicant's background and experience in cellular electrophysiology to: Jeffrey E. Saffitz, MD, PhD; Washington University School of Medicine, Box 8118; 660 South Euclid Avenue; St. Louis, MO 63110 or Kathryn A. Yamada, PhD; Washington University School of Medicine, Box 8086; 660 South Euclid Avenue; St. Louis, MO 63110.

**Postdoctoral Research Fellow.** An NIH-funded postdoctoral position for US citizens or permanent residents is available immediately in the Center for Perinatal Biology at Loma Linda University in Loma Linda, California. This position is funded to study the effects of maturation on coupling between membrane receptor activation and myosin light chain phosphorylation in ovine cerebral arteries. Serious consideration will be given only to applicants with a demonstrated expertise in native and SDS PAGE, isoelectric focusing, and Western blotting of cellular proteins. Prior experience with measurements of myosin light chain phosphorylation is highly preferred, as is a background in vascular physiology or pharmacology. The salary for this position is highly competitive and will be determined by the years of relevant experience, publication record, and the strength of recommendations from three established scientists. Appointment to the position will be for two years with an optional third year. Applicants with a background in vascular biology and protein chromatography are invited to send a copy of their curriculum vitae and a letter describing their background and career objectives to: William J. Pearce, PhD, Center for Perinatal Biology, Loma Linda University School of Medicine, Loma Linda, CA 92350.

**Assistant Research Scientist.** The University of Iowa College of Medicine, Department of Internal Medicine, Infectious Diseases Division is seeking an Assistant Research Scientist to demonstrate satisfactory knowledge of research techniques relating to a wide range of molecular virology, specifically hepatitis A, C, and G viruses. A person in this classification has the academic knowledge of a discipline that is generally associated with a Doctoral degree, or an equivalent combination of education and experience. In addition, the person will have demonstrated the ability to plan and execute a research project through progressively responsible independent research work. Research experience in the area of molecular hepatitis A virus, hepatitis C virus, and hepatitis G virus; graduate work in molecular hepatitis research; experience with molecular biology and molecular methods used in the amplification, cloning, sequencing, sequence analysis of hepatitis viruses and experience with biophysical characterization of virus particles and vaccine development are desirable. Please send resume and cover letter indicating #39186/Assistant Research Scientist to: Carol Wehby, Human Resources, Internal Medicine, E400 GH, 200 Hawkins Drive, Iowa City, Iowa, 52242-1081. The University of Iowa is an Equal Opportunity and Affirmative Action employer. Women and minorities are strongly encouraged to apply.

**Postdoctoral Position:** NIH-funded postdoctoral position is available to study structure-function relationship of inositol (1,4,5)-trisphosphate receptor (InsP<sub>3</sub>R). InsP<sub>3</sub>R is an intracellular Ca<sup>2+</sup> release channel activated in response to generation of a second messenger InsP<sub>3</sub>. In our studies of InsP<sub>3</sub>R we combine molecular and biochemical approaches with electrophysiological recordings of InsP<sub>3</sub>R in planar lipid bilayers. Our group has recently set up functional recordings of recombinant InsP<sub>3</sub>R in planar lipid bilayers (*J. Gen. Physiol.* 111: 847, 1998), and we are now taking advantage of this system to delineate structural determinants responsible for major functional properties of the InsP<sub>3</sub>R. For a brief description of our research program see our Web page ([http://www.swmed.edu/home\\_pages/physiology/bezprozvanny.html](http://www.swmed.edu/home_pages/physiology/bezprozvanny.html)). Previous experience in electrophysiological methods is a plus, but not absolutely required. Excellent multidisciplinary training opportunity in a small laboratory setting, with the full advantage of the rich intellectual environment of the University of Texas Southwestern. Please send a curriculum vitae and the names and contact information of two references to: Ilya Bezprozvanny, PhD, Department of Physiology, University of Texas Southwestern Medical Center at Dallas, 5323 Harry Hines Blvd., Dallas, TX 75235-9040. Fax: 214-648-2974; e-mail: [bezprozv@utsw.swmed.edu](mailto:bezprozv@utsw.swmed.edu). [EOE/AA]



## Positions Available

**Two postdoctoral positions** are available for a recent PhD to study regulatory mechanisms of sodium transport in lung and renal epithelial cells by protein tyrosine kinase and osmolality using patch clamp, biochemical and molecular biological techniques. The candidate should have a strong background in one or more of the following areas: electrophysiology, biochemistry, cell biology of surface membranes, and molecular biology. Letters of application, including a curriculum vitae and the names of at least two references should be sent to: Yoshinori Marunaka, MD, PhD, Lung Biology, Hospital for Sick Children Research Institute, University of Toronto, 555 University Ave., Toronto, Ontario M5G 1X8, Canada. Fax: 416-813-5016, e-mail: marunaka@sickkids.on.ca.

**Postdoctoral Positions:** Available in a multidisciplinary training program to study nitric oxide signaling mechanisms in vascular smooth muscle in response to exercise. The primary focus is on the molecular, biochemical, and physiological properties of neuronal,  $\text{Ca}^{2+}$ /calmodulin-dependent nitric oxide synthase in skeletal muscle fibers in relation to vascular responses and derangements caused by disease. A wide range of techniques and experimental approaches provides opportunities to design in a vigorous and exciting intellectual environment a unique training program ranging from mechanisms of gene expression to integrated muscle systems. Please address inquiries to: James T. Stull, Ph.D., Department of Physiology, The University of Texas Southwestern Medical Center at Dallas, 5323 Harry Hines Boulevard, Dallas, TX 75235-9040, Phone 214-648-6849, Fax 214-648-2974, email jstull@mednet.swmed.edu. An affirmative action/equal opportunity employer.

**Research Scientist/Administrator Position Available:** I am looking for an individual with a background either in cardiovascular or endocrine physiology or in immunology who has completed postdoctoral training. The individual will work as part of a research team investigating Gulf War Illness. Approximately 60% of his/her time would be in research administration — hiring staff, IRB issues, reports, etc. The remainder of the time would be available to participate in ongoing research and/or work on preparing existing data for publication. The person must be senior enough to be able to prove excellent administrative/organizational skills. The Gulf War Research Center is one of three funded by the VA and is located on the grounds of the East Orange VA Medical Center in metropolitan New Jersey. The location is a 40-minute drive either from Manhattan or the Poconos. Interested individuals should Fax their curriculum vitae to Benjamin H. Natelson, Professor of Neurosciences, New Jersey Medical School at 973-676-4661 or attach the same in an email to me (bhn@nbunj.jvnc.net).

**Research Assistant.** Position available for a full-time research assistant to work in the Liver Research Laboratory of Beth Israel Medical Center in New York City. Candidate must have experience in neurosurgical techniques in small animals (e.g., microinjections in specific brain nuclei in rats), cannulation of blood vessels, preparation of solutions, and basic computer skills. For more information, contact: Nora V. Bergasa, M.D. Tel: 212-420-2427; fax: 212-420-4373.

**Postdoctoral Research Fellowship:** The Department of Surgery at the University of Chicago invites applications for a 2-year, NIH funded research fellowship beginning July 1, 1999. The research strengths of our group includes the immunology and physiology of allergic rhinitis, head and neck tumor biology, immunology of a mouse model of sinusitis, and vestibular physiology. Applicants must have completed a PhD and be United States citizens or citizenship eligible. Salary is commensurate with current NIH scale. The University of Chicago and its Medical Center are Affirmative Action/Equal Opportunity Employers and applications from women and representatives from minority groups are encouraged. Please send CV with references to: Michael Jonen, Section Administrator, Section of Otolaryngology-Head & Neck Surgery, University of Chicago, 5841 S. Maryland Avenue (MC1035), Chicago, IL 60637. Tel: 773-702-1862; Fax: 773-702-6809; Email: mjonen@surgery.bsdu.uchicago.edu.

**Postdoctoral Position:** Available to perform patch-clamp studies of cloned ATP-regulated potassium channels. The studies will investigate the molecular basis of the nucleotide-operated gating of these channels. This position is part of an NIH-funded ion channels research laboratory that uses both electrophysiology and molecular biology/protein chemistry approaches offering a multiple-discipline research environment. Requirements include a PhD or equivalent in physiology or a related field and experience with patch clamp. Capability to analyze and interpret the single-channel data with mathematical models is preferred. Experience with cell culture and molecular biology is strongly desirable. Routine single-channel recording, transfection, mutagenesis, and plasmid preparation are expected. Send curriculum vitae and the names of three references to: Dr. Zheng Fan, Department of Physiology and Biophysics, University of Tennessee, 894 Union Avenue, Memphis, TN 38163. Fax: 901-448-7126; e-mail: zfan@physio1.utm.edu. The University of Tennessee is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA employer.

## People and Places

Having accepted a position with the Department of Pharmacology, East Tennessee State University, James H Quillen College of Medicine, Johnson City, TN, **Jeffrey L. Ardell** has left the Department of Physiology, University of South Alabama School of Medicine, Mobile, AL.

Recently, **John C. Baldwin** has been appointed Dean of the Dartmouth Medical School, Hanover, NH. Prior to his appointment, Baldwin was Professor and Chairman, Department of Surgery, Baylor College of Medicine, Houston, TX.

**Hyo Weon Bang** was formerly with the Department of Physiology, Chung-Ang University College of Medicine, Seoul, South Korea. Today, Asst. Professor Bang is with the Department of Physiology/Biophysics, Finch University Health Sciences, Chicago Medical School, North Chicago, IL.

Accepting a position as Senior Scientist with the Neuronal Plasticity Group, Oregon Health Sciences University, Portland OR, **Neal H. Barmack** is no longer with the Neurological Sciences Institute, Portland, OR.

**Michele Lynn Barnard** has accepted a position with the National Institutes of Health National Heart, Lung, and Blood Institute, Laboratory Kidney & Electrolyte Metabolism, Bethesda, MD. Formerly, Barnard was with the Michael Reese Hospital, Pulmonary Research Laboratory, Chicago, IL.

Affiliating with Harvard University, Museum of Comparative Zoology, Harvard University Concord Field Station, Bedford, MA, **Andrew A. Biewener** has moved from the Department of Organismal Biology and Anatomy, University of Chicago, Chicago, IL.

**Guillermo M. Ceballos** has recently joined the Department of Pharmacology, National Politechnique Institute Medical School, Mexico City, Mexico. Ceballos had been associated with the Department of Pharmacology, National Institute of Cardiology, Mexico City, Mexico.

Moving from the Physiology Department, Northeastern Ohio University College of Medicine, **Margaret P. Chandler** has joined the Department of Physiology, Wayne State University School of Medicine, Detroit, MI.

**Subrata Chattopadhyay** has joined the Mt. Sinai School of Medicine, Brookdale Center for the Development of Molecular Biology, New York, NY. Prior to this new affiliation, Chattopadhyay was associated with the Department of Nutritional Sciences, University of Connecticut, Storrs, CT.

**Andrew R. Coggan** is currently Director of Biomedicine, University of Maryland School of Medicine, Department of Medicine, Division of Gerontology, VA Medical Center, Baltimore, MD. Prior to his new assignment, Coggan was affiliated with the Shriners Burns Institute Metabolism Unit, Galveston, TX.

Joining the Department of Pathology, Duke University Medical Center, Durham, NC, **Mark Steven Crago** has recently left the Uniformed Services University Health Sciences Center, Department of Physiology, Bethesda, MD.

**Julio C. Cruz** is now with the Department of Internal Medicine, Ohio State University, School of Allied Medical Professions, Columbus, OH. Cruz was with the Medical College of Ohio, Toledo, OH, before moving to Columbus.

Accepting a new position with the University of North Carolina Hospital School of Medicine, Clinical Research Center, Chapel Hill, NC, **Marlowe W. Eldridge** has moved from the University of California-Davis, Critical Care Medicine, Davis, CA.

Recently affiliating with Stanford University School of Medicine, **Phyllis I. Gardner** has accepted a new position as Senior Associate Dean for Education and Graduate Affairs. Prior to her new position, Gardner was associated with the Alza Corporation, Vice President of Research, Palo Alto, CA.

**Tracy A. Gautsch**, a research assistant formerly with the University of Illinois, Urbana, IL, has joined the Pennsylvania State University College of Medicine, Hershey, PA.

Becoming the Dean of the College of Arts & Sciences, Drexel University, Philadelphia, PA, **Cecilie Goodrich** has left the Department of Biology, Cleveland State University, Cleveland, OH.

**Michael K. Hansen** has become affiliated with the Department of Psychology, University of Colorado, Boulder, CO. Formerly, Hansen was a graduate student with the Department of Physiology and Biophysics, University of Tennessee, Memphis, TN.

**Gerald M. Herrera** has joined the Department of Physiology/Biophysics, the University of Vermont College of Medicine, Burlington, VT. Prior to his new affiliation, Herrera was with the Department of Physiology, the University of New Mexico School of Medicine, Albuquerque, NM.

Having accepted a position with the Department of Anesthesiology, Columbia University College of Physicians and

## People and Places

Surgeons, New York, **Carol A. Hirschman** has left the Department of Anesthesiology, Johns Hopkins School of Hygiene, Baltimore, MD.

Accepting a position as Vice President of Drug Discovery, Transport Pharmaceuticals Inc., located in Natick, MA, **William F. Holt** is no longer Director of Cambridge Neuroscience, Cambridge, MA.

**James B. Hoying** has joined the Department of Biomedical Engineering, University of Arizona, Tucson, AZ. Prior to his new commitment, Hoying was affiliated with the Department of Molecular Genetics, Biochemistry, and Microbiology, Cincinnati, OH.

Accepting the position of Chief of the Ralph H. Johnson VA Medical Center, Medical Specialties Service, Charleston, SC, **Florence N. Hutchison** has left the Department of Internal Medicine, Medical University of South Carolina, Charleston, SC.

**Jin Seok Jeon** has left the Department of Zoology, Ohio State University, Columbus. Jeon is now Professor and Chairman, Keimyung University, Department of Biology, Daegu, South Korea.

Having affiliated with the Department of Physiology and Pharmacology, Loma Linda University School of Medicine, **J. Mailen Kootsey** has left the Andrews University College of Arts and Sciences, Berrien Springs, MI.

Formerly, **Lisa R. Leon** was associated with the Lovelace Respiratory Research Institute, Albuquerque, NM. Currently, Leon is affiliated with the Diabetes Branch of the National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, Bethesda, MD.

**Mahmoud Loghman-Adham**, formerly associated with the Eccles Institute of Human Genetics, Salt Lake City, UT,

has joined the Cardinal Glennon Children's Hospital, Division of Pediatric Nephrology, St. Louis University Medical School, St. Louis, MO.

**Gary M. Malvin** accepted a position as Research Assistant Professor, the Department of Cell Biology and Physiology, University of New Mexico, School of Medicine, Albuquerque, NM. Prior to his new position, Malvin was associated with the Lovelace Medical Foundation, Research Division, Albuquerque, NM.

**Joseph E. Melton** is currently with Design Write, Inc., a medical communications firm of Princeton, NJ. Formerly, Melton was with the Department of Medicine, Pulmonary Division, Academic Health Science Center, New Brunswick, NJ.

Presently affiliated with the Department of Exercise Sciences, University of Massachusetts, Amherst, MA, **Mary P. Miles** has left the Department of Biochemistry and Molecular Biology, Pennsylvania State University, University Park, PA.

Recently, **Mark J.S. Miller** accepted a position with the Department of Pediatrics, Albany Medical College, Albany, NY. Prior to his new position, Miller was with the Department of Pediatrics, Louisiana State University Medical Center, New Orleans, LA.

Joining Eli Lilly and Company, Indianapolis, IN, as a senior scientist, **Chahrazad Montrose-Rafizadeh** has recently left the National Institute of Aging, Gerontology Research Center, Baltimore, MD.

Joining the Department of Physiology & Biophysics, University of Texas Medical Branch, Galveston, TX, **Ana M. Pajor** has left the Department of Physiology, University of Arizona, College of Medicine, Tucson, AZ.

**Stuart Martin Phillips** has become affiliated with the Department of Kinesiology, McMaster University, Hamilton, Ontario, Canada. Formerly, Phillips was with the School of Human Kinetics, University of British Columbia, Vancouver, BC.

**Darren M. Roesch** has become affiliated with the Department of Endocrinology, Metabolic Laboratory, Washington, DC. Prior to his new affiliation, Roesch was with the University of Florida, College of Pharmacy, Gainesville, FL.

**Barry William Scheuermann** has joined the Department of Kinesiology, Kansas State University, Manhattan, KS. Prior to his new affiliation, Scheuermann with the Faculty of Kinesiology, University of Western Ontario, London, Ontario, Canada

Presently, **Robert Schlichtig** is working with the Division of Critical Care, Noble Hospital, Westfield, MA. Before his new assignment, Schlichtig was associated with the Department of Anesthesiology, VA Medical Center, Pittsburgh, PA.

Affiliating with the Department of Surgery, University of Southern California, Los Angeles, CA, **Lelan F. Sillin** has left the Department of Surgery, SUNY Health Science Center at Syracuse, Syracuse, NY.

**Akira Takahashi** is now associated with Osaka University, Department of Bacterial Infection, Research Institute Microbiology Disease, Osaka, Japan. Prior to his new assignment, Takahashi was with Yamaguchi University, School of Medicine, 3rd Department of Internal Medicine, Yamaguchi, Japan.

Recently, **Carol E. Torgan** joined the Department of Medicine, Duke University Medical Center Durham, NC. Prior to her new assignment, Torgan left the Laboratory of Biochemical Genetics, National Institutes of Health,

## People and Places

National Health, Lung, Blood Institute, Bethesda, MD.

Professor **Susan A. Ward** has left the School of Applied Science, South Bank University, London, UK, and has become the Director of the Centre for Exercise Science and Medicine, University of Glasgow, Glasgow, UK.

Joining the Department of Physical Therapy, Georgia State University, Atlanta, GA, **Gordon L. Warren** was formerly with the Department of Health

and Kinesiology, Texas A&M University, College Station, TX.

**B. Stanley Willenbring** has become affiliated with the Department of Biological Sciences, College of Health Sciences, Roanoke, VA. Prior to his new affiliation, Willenbring was with Pikeville College, School of Osteopathic Medicine, Pikeville, KY.

**John P. Williams** is currently Associate Professor, Department of Anesthesiology, University of Pittsburgh, Pittsburgh,

PA. Prior to his new assignment, Williams was associated with the Department of Anesthesiology, UCLA School of Medicine, Los Angeles, CA.

Leaving the Department of Physiology, University of Virginia Health Sciences Center, Charlottesville, VA, **Christopher J. Wingard** has joined the Department of Physiology and Endocrinology, Medical College of Georgia, Augusta, GA. ♦

### Jacobs Receives Medal

**Gerald H. Jacobs** of the Neuroscience Research Institute and Department of Psychology at the University of California, Santa Barbara has received the Proctor Medal from the Association for Research in Vision and Ophthalmology.

This annual award is given for outstanding research in the basic or clinical sciences as applied to ophthalmology. Jacobs was cited for his research on the biological basis of color vision. ♦

### Linehan Named Whitaker Vice President

John (Jack) H. Linehan, professor and chair of the Biomedical Engineering Department at Marquette University, has been named to the newly created position of vice president for biomedical engineering programs at The Whitaker Foundation, effective August 1.

Whitaker Governing Committee Chairman G. Burt Holmes said of Linehan, "Jack brings with him a wealth of experience and judgment as a researcher, administrator and grant reviewer."

The Whitaker Foundation is a private, nonprofit foundation that primarily supports research and education in biomedical engineering. The foundation currently supports more than 340 research projects, 142 graduate fellows, and 80 education and internship programs at colleges and universities in the United States and Canada. Grants are also made to lower medical costs and develop teaching materials. ♦

### Request for proposals: A Veterinary Internship and PhD Fellowship in Animal Welfare

The William and Charlotte Parks Foundation invites applications for:

- a) a one year Veterinary Internship in animal welfare from final year veterinary graduates at United States institutions; or
- b) a fellowship from graduate students already enrolled in a doctor of philosophy (PhD) program at an accredited institution of higher learning in the United States.

The successful candidate will receive a grant of up to \$30,000. Applications should be sent to the William and Charlotte Parks Foundation for Animal Welfare, c/o Dr. F. Barbara Orlans, 7106 Laverock Lane, Bethesda, MD 20817 postmarked no later than **December 1, 1998**. The Parks Foundation's Grants Committee reserves the right not to issue an award if it decides that none of the applicants are of sufficient merit. If an award is made, the successful applicant will be notified by the end of January, 1999. The award period for the Veterinary Internship will run from June 1, 1999 to May 31, 2000 and for the PhD Fellowship from June 1, 1999 to May 31, 2002.

Inquiries regarding this program and the application requirements can be made to Dr. Barbara Orlans (Tel.: 301-229-7525; E-mail: orlansfb@gunet.georgetown.edu).



## News from Senior Physiologists

### Letters to Arthur Vander

**Stuart Sullivan** writes: "Thank you for your kind inquiry about my activities since retirement in 1991. I do enjoy reading the news from senior physiologists, but have no personal news in the scientific realm."

"After many decades in Academe, my retirement has been a complete break with the past. I have a multitude of as yet unopened cartons from past activities, but so far have not found the time to start the triage, probably not worth the effort. What's past is really past."

"I'm still very busy in very different activities, golfing, gardening, reading, computing, et alia."

"My only words of wisdom are not original, 'Sic transit gloria mundi.'"

**Allen Silbergleit** writes: "Thank you for your letter of March 26, 1998, sent to all members 'born in 1927'. This letter may have been sent to me by mistake since I was not born in 1927, but rather in 1928. The dates are only one year apart, but I don't want to push it! Nevertheless, I will respond to your inquiry."

"At the present time, I am healthy and continue fully active on all fronts, with no thoughts given to retirement. This may be somewhat of an anomaly, but is certainly not unique. I remain active in all scientific activities, including writing and continue with my administrative and teaching activities, as well as patient care, including operating. I am the Director of a General Surgical Residency Program, but my private practice is Thoracic and Cardiovascular Surgery. Surgery and physiology are not, of course, totally unrelated disciplines. My own training had been with some of the pioneers in 'surgical physiology' and I remain very active in organizing formal basic science courses for surgical residents and also give an elective in surgical physiology for senior medical students at Wayne State University School of Medicine."



"Your paragraph on archival materials is of special interest to me. Over the past few years, I have been working with the University archivist at the Walter P. Reuther Library of Wayne State University. The archivist has already done an excellent job in organizing some of our material in which I have had an interest and have served as a participant. This material will remain in the library in the permanent files available to researchers."

"I must admit there are certain aspects of humor relating to reaching a certain age. When I go to the dentist, the hygienist always asks me what medications I'm on. When I reply 'none', she looks at me rather strangely. I suppose that people at a certain age, in the United States, are supposed to be on some medication or other, whether they need it or not."

"I like to think that I am constantly passing on words of wisdom to my younger colleagues, but I am not sure I can put anything into a few sentences in response to your query. However, it may be appropriate to note that nothing is as constant as change, although changes in science and medicine seem to be occurring more rapidly now than they have at times in the past. The art and the science of physiology and medicine are more exciting than they have ever been, although the economics and excessive regulations border on the trying. There is no longer a perceived shortage of physiologists and physicians, but the need remains for those selected and dedicated who are willing to put in the effort."

**Gerald B. Spurr** writes: "I am writing in response to your letter of March 26th concerning my activities since retirement. The time has gone so quickly and

I have been so busy, it hardly seems like retirement."

"I retired on June 30, 1995, which coincided with the expiration of my last NIH Grant. My research for the previous 25 years had been dedicated to studying the physiological consequences of chronic malnutrition in children and adults in Cali, Colombia, where, in the early years at least, undernutrition was endemic. The research in more recent years has been less of direct malnutrition, than studies of people 'living on the edge' in extreme poverty where every day is a struggle to achieve the nutritional recommendations necessary to support adequate, if not necessarily good, health. Some days are successful and some days not so. Our studies in Colombia have been related to work physiology, energy expenditure and nutrient intake, reproductive status of women, growth and maturation of children, etc., as they relate to socioeconomic and nutritional status."

"Upon retirement, my colleagues and I were successful in obtaining financial support from the Colombian government to keep our program going under the direction of our Colombian co-investigator who is currently PI on a study of teenaged pregnancy. I continue as a voluntary consultant, helping with methodology, study design, data analysis and advice on report and manuscript writing. Where I used to spend 3-4 months per year in Cali during 3-4 trips, I now spend 1-2 months per year there in 2-3 trips. It keeps me in contact with the work and with my many friends in Colombia. I also am engaged in the analysis and write-up of data collected before retirement, which continue to appear in refereed journals."

"After retirement I was asked to stay on in a part-time faculty status to continue as Director of the Freshman Medical Physiology course and this is why my CV lists me as 'Professor of Physiology'. This I do in conjunction with the full time faculty person who will assume responsibility for the departmental teaching program when I finally do retire."

## News from Senior Physiologists

completely. I have been doing this job for the past 20 years, so I bring some ease of experience in conducting oversight that is in no way onerous and keeps me in touch with the students and departmental faculty. At the same time, it gives me a ring side seat to observe the activities in one of the finest departments of physiology in the country. It is an exciting time of change, which I feel privileged to be a part of, if only as an observer.

"My wife and best friend, Beth, and I now have time to travel a lot more, to visit children and grandchildren and to follow our hobby of genealogy. Recent trips to Nova Scotia, Ireland, and Salt Lake City have added to our fund of family data, and revealed the existence of living relatives we did not know we had. We are indeed fortunate and hope to have the good health to continue for many years to come.

"Thanks very much for taking the time to inquire about my doings. I have Bill Stekiel in the office next to mine so I am aware of the work of your committee and enjoy reading about the retired members of the Society in *The Physiologist*. It is amazing how us old fellows keep on going."

### Letters to Kenneth Zierler

**Francis Chinard** writes: "Thank you for the note and the invitation to a recital of current deeds and misdeeds in connection with a forthcoming 80th birthday. I accept the invitation and will communicate it to you on reaching that venerable age.

"My teaching activities have become somewhat limited. For a number of years I have been giving a course on the History of Medicine in which I trace the evolution of our institutions and practices and the development of our knowledge and understanding in the basic sciences and, particularly, physiology. Another elective is on current issues in medicine. In this there is active participation by students and discussions of subjects ranging from the many variants of

the Hippocratic Oath, through euthanasia, medical ethics, misconduct in scientific research to the duration of medical education and training. I always include a well-received diatribe on academic bulimia, gavaging and regurgitation on the examinations."

**Harry Goldsmith** writes: "Wow! Was that a lovely surprise, to receive letters from you and the APS! The more so, since I do not feel that ancient (yet!!) and am a little diffident about imparting advice to Physiologists since I am not a bona fide member of the fraternity. However, I will indeed write the suggested letter giving members some idea of where I come from, and what I am doing (still active, still have grants, still do my annual teaching in cardiovascular physiology and colloid chemistry). I also enjoy reading those letters in *The Physiologist*.

"When I am asked about my career, the strongest impression I have is of the extraordinary good fortune that I encountered throughout my professional life. For instance, I landed at the Montreal General Hospital because of my contacts made by my thesis supervisor with Hank Macintosh, Chair of the Department of Physiology, and with Arnold Burgen, who was then supervising the PhD of one, Carl Goresky, whom you knew well. Carl took me under his wing and saw to it that I was given every opportunity to do the research that I wanted to do. (We do miss him, terribly.) And all of this at a time when medical research was taking off and it was not that difficult to get operating grants from the MRC. Francis Chinard was here at the time and signed my first grant application in November, 1964.

"I am Editor-in-Chief of *Biorheology*, a job that fell into my lap because of the untimely deaths of the previous two Editors, so I do keep busy, but I rather doubt that I will be writing thought-provoking papers at the age of 80. It is you who should be saluted!

"Certainly, the friendships of col-

leagues and the meetings at conferences played a central role in the evolution of the research I undertook and made my career so enjoyable. It is a strange but happy coincidence that your request comes at a time when my two daughters are clamoring for my recollections of childhood and early career to be put down on paper."

**John B. West** writes: "Many thanks for your letter. This evoked mixed feelings. On the one hand, it is always nice to hear from old friends! On the other, it implied that I might be slowing down. Happily, this is not so; 1997 was as productive a year as I can remember. My teaching responsibilities, including the first-year physiology course for medical students, remains unchanged.

"There is an interesting new project here. I just finished a comprehensive book on the history of high-altitude physiology and medicine, which will be published by the American Physiological Society/Oxford University Press in the summer. In the course of preparing this, I collected various theses, unpublished manuscripts, and reports of people who worked in the field. After talking to the archivist at the UCSD main library, we have decided to build a collection of original research material in this area. This will include depositions of correspondence, research projects, and other archival material from people prominent in the field, and perhaps some oral histories as well. For an example of what can be done along these lines, see the History of Pain collection at UCLA at <http://www.library.ucla.edu/libraries/bio-med/his/pain.htm>. This promises to be a very satisfying project."

**Andrzej Trzebski** writes: "Thank you very much for your kind letter and for so kind congratulations. It was really a nice surprise for me. You are perfectly right. Passing 70th birthday is a kind of borderline which stimulate the brain to reflections going far out of everyday busy days. I am still active both scientifically

## News from Senior Physiologists

and as the Chairman. My retirement as a chairman, according to the rules in Poland, will begin in the fall of this year. Still, I plan to be active in the Department afterwards. I will mail you a more detailed letter after my return from Experimental Biology, '98 meeting in San Francisco next month. I have an oral presentation there. Maybe you will be there by chance?"

**C. Ajmone-Marsan** writes: "Thanks for your letter of March 17th. I have just retired and remain in the University of Miami School of Medicine, Department of Neurology as Professor Emeritus. I remain very moderately active and enclose a copy of my CV for your information. There is really nothing important to be published in *The Physiologist* and you may destroy my CV. At the most, you can mention you heard from me and I am still alive."

### Letters to Robert Berne

**Bodil M. Schmidt-Nielsen** writes: "So we are both octogenarians. It does not seem like it and does not seem like such a long time ago that we were both at Case Western University. I shall be glad to tell you what I am doing now."

"After the English edition of my book, August and Marie Krogh, was published in 1995, I got busy for a while with the Danish edition. Even though I had a translator-editor there was an endless number of questions I had to answer every day via e-mail. The book came out just before Christmas 1997. Both editions are selling well. Now I should have more time for other things. I have started to write a review on urea excretion and a small paper for NIPS on the function of

the renal pelvis; but I also have a steady stream of letters about my book with questions I have to answer. Mail and email with old and new colleagues and friends also keep my busy. I was very happy to get an honorary Doctor's degree in Medicine in Aarhus, Denmark in September, 1997, and the Robert Berliner Award in San Francisco in April this year. The Comparative Physiology and Renal Sections of APS hosted a lovely luncheon in honor of my eightieth birthday this year and M. Ian Philips presented me with the title of University Professor with a gold medal at University of Florida. Best of all, I visited with many of my delightful former students.

"My life is not all work--far from it. My husband, Roger Chagnon, and I live in Gainesville, FL eight months of the year and in Maine four months. A great combination as we have the best of two worlds! We live in Haile Plantation, a beautiful golf and country club, where Roger enjoys his favorite sport, golf, and I am part of a very active walking group. Some of us have just started kayaking, too. I also belong to a book club here in Haile. It is great having time to read good books and to make new interesting friends. During my working years, I did not have much time for women friends, but during my retirement years, a whole new world has opened up to me through my many friends.

"In Maine, we have a house on Frenchman's bay. I kayak and swim most every day, and our children and other family members come for visits. Great fun! I'm still a Trustee of Mount Desert Island Biological Laboratory and a member of various committees. I enjoy going to some of the lectures and symposia at the laboratory, but most of the

time I do fun things with my friends and with Roger."

### Letter to William Stekiel

**Frank G. Moody** writes: "Thanks for inquiring as to whether I was still alive and kicking, and the answer to both is yes. I have been most fortunate in having the opportunity to continue to work here at The University of Texas Medical School in Houston as the Denton A. Cooley Professor of Surgery. My reason for moving to Houston from Utah 15 years ago (at age 55) was to have an opportunity to work closely with Stanley Schultz, Rusty Johnson, Gill Castro, Norm Weisbrodt and others. In fact, I still remain very active in the laboratory because of their generosity with both their time and intellect.

"Physiology that now seems to be assuming many other names continues to be an extremely important discipline to the field of digestive surgery, my major field of interest. I continue to remain totally fascinated as well as confused by the complexity of the gastrointestinal tract. Fortunately, we are gaining on our ignorance, and if we can continue to attract the brightest and best into our field, there is no question that we will be able to blunt the disastrous effects that gastrointestinal diseases have on mankind.

"We all appreciate what people like you are doing for us oldies, since academia appears to have developed a rabid case of Institutional Alzheimer's Disease. I guess that is appropriate for our expendable society, but over the long haul, developing a sense of our relationships to the past may enhance our future." ♦



### Neural Control of the Respiratory Muscles

A. D. Miller, A. L. Bianchi, and B. P. Bishop (Editors)  
Boca Raton, FL: CRC, 1997, 310 pp.,  
illus., index, \$139.0  
ISBN: 0-8493-40001-2

Individuals interested in reviews of respiratory control have many sources. *Respiration Physiology* recently devoted an issue (volume 110) to it and my own database includes just over 100 references available since 1990 with both index terms "control of breathing" and "review," 9 being devoted to the control of respiratory muscles. Readers may then wonder why this book is needed. Aside from the necessity of updating and integrating recent work, many of these other works are in diverse sources, some of which may not be readily available, in part because of the increased cost of books and journals, especially those from 'private' publishers (operating profits at Reed-Elsevier in the first six months of 1997 were £446M). Many have appeared as chapters in volumes of the series *Lung Biology in Health and Disease* published by Marcel Dekker. Although less detail is available in this new book, it provides a valuable and comprehensive overview of many aspects of respiratory control.

The editors, as indicated in their introductory chapter, have partitioned the book into three sections: the respiratory muscles (including mechanics), their control during breathing, and their control during nonrespiratory behaviors.

The first contains chapters describing control of the diaphragm, intercostals, abdominals, and the muscles of the upper airway, and concludes with a chapter on respiratory mechanics. The chapter on the diaphragm places considerable emphasis on its architecture, fiber types, contractile properties, motor unit organization, fiber phenotype, metabolic properties, and trophic

influences. With the exception of limited information on the contractile properties of muscles of the upper airway (reflecting the problem of obstructive sleep apnea), comparable data are not available for the intercostal and abdominal muscles. Thus, new techniques to assess muscle function at the cellular level, succinctly described by Sieck and Prakash, have been devoted almost entirely to the diaphragm; future studies of similar features in other respiratory muscles may well provide novel insights into their roles in health and disease.

The second section describes the traditional aspects of breathing-related control of respiratory muscles: organization (neuroanatomy) at the spinal and supraspinal levels, respiratory rhythmogenesis, neuropharmacology, gasping, and control during exercise, sleep, and disease, subjects often covered in volumes devoted to each topic. Little overlap exists between these chapters despite a common theme underlying, for example, the involvement of supra-brain stem regions on the one hand and ventilatory control during either exercise or sleep on the other. Some readers will welcome the autonomy of individual chapters while others may have preferred more integration.

There are several understandable omissions from this section. The first relates to the absence of information about control of airway smooth muscle. Skeletal muscles of the chest wall and airway work against the intrinsic load posed by airway resistance. Activation of high-threshold diaphragmatic afferents reduces airway resistance, unloading the diaphragm (McCallister et al., *J. Appl. Physiol.* 61: 1346-1351, 1986); thus, afferents from muscles generating flow affect the load against which they work. However, at the time of writing there was limited information about the interactions between central respiratory neurons and parasympathetic neurons controlling airway smooth muscle tone (e.g., Mitchell et al., *J. Appl. Physiol.*

58: 911-920, 1985), since corrected to some degree (e.g., Haxhiu et al., *J. Auton. Nerv. Sys.* 61: 155-161, 1996 and Dickstein et al., *J. Appl. Physiol.* 81: 1844-1849, 1996). The second concerns the absence of information about respiratory control in orders other than mammals. However, most papers by N. Syed and colleagues on snails, H.A. McLean and colleagues on frogs, and Pack's and Remmers' groups on tadpoles have appeared since this book went to press; birds, however, have been the subject of intense study (e.g., a book from the same publisher, edited by T.J. Seller, appeared in 1987). The last omission, and for the same reason, is the likely replacement of the superfused neonatal rat brain stem-spinal cord preparation by the perfused, working heart brain stem of the mouse (J.F.R. Paton, *J. Neurosci. Meth.* 65: 63-68, 1996) for studying central control mechanisms.

The third section of the book is of particular interest because, as its chapters reveal, 'respiratory' muscles are involved in much more than generating airflow, as indicated earlier in Bishop's chapter on the abdominal muscles. Indeed, almost as many chapters (8) are devoted to nonrespiratory functions as respiratory ones (11). These include coughing and sneezing, swallowing, vomiting, vocalization, cardiorespiratory interactions, balance, and interactions with locomotion. The previous inattention to nonrespiratory functions was a legacy of anesthesia or decerebration which eliminated, or made it more difficult to elicit, such activities. Indeed, for those preoccupied with the neural mechanisms underlying the generation of respiratory rhythm, this was a distinct advantage because accessory activities, such as those related to muscles of the upper airway, were absent. This section, however, does much to convince the reader that 'respiratory' muscles are often respiratory in name only.

I note only two omissions in this



## Book Reviews

section. The first is the absence of work related to vocalization in birds. Songbirds have an extensive vocal repertoire and the organization of the respiratory control mechanisms is similar to that of mammals (see Wild's recent review in *J. Neurobiol.* 33: 653-670, 1997). The second relates to the controversy about whether respiration during locomotion in quadrupeds is passive, driven by motion of the viscera, an issue discussed in the complimentary chapters by Ainsworth and Viala. However, work by the former is not mentioned by Viala (who provides a fine overview of the neural mechanisms underlying entrainment), even though Ainsworth and her colleagues published two papers, the

first in 1995 (*Adv. Exp. Biol. Med* 393: 231-234, 1995), indicating that the diaphragm's contribution is active.

Grélot and Bianchi in the last chapter, suggest that multifunctional premotor neurons underlie the multiple roles of some muscles. This appealing idea has some experimental support. Tell and Jean, for example, have demonstrated that caudal neurons of the *tractus solitarius* display different discharge patterns depending on the prevailing membrane potential and neurotransmitter (*J. Neurophysiol.* 70: 2379-2390, 1993). However, limited experimental evidence indicates that motoneurons (and motor units) display role specificity (e.g., some phrenic motoneurons are

recruited during eupnea and coughing but not vomiting; Milano et al., *J. Appl. Physiol.* 73: 1626-1636, 1992). Given the many functions of these muscles, well described in this book, multifunctionality of premotor and motor neurons is a topic worthy of future investigations.

Despite the limited integration inherent in multi-authored works, this book meets the need for a reasonably-priced compilation of work on the many important, but often unappreciated, aspects of control of 'respiratory' muscles. ♦

Steve Iscoe  
Queen's University

### Biology by Numbers: An Encouragement to Quantitative Thinking

Richard F. Burton  
New York: Cambridge University Press,  
1997, 238 pp., illus., index, \$19.95  
ISBN: 0-521-57698-9

In 1994 Burton published *Physiology by Numbers*, a very useful book describing quantitatively the functions of many major organ systems. Dynamic software programs that cover much the same areas of *Physiology* are Coleman's "QCP2" or Randall's "HUMAN-PC."

Burton organizes *Biology by Numbers* differently from *Physiology*. Whereas *Physiology* is intended to teach quantitative physiology, *Biology* appears intended to supplement high school or freshman college level mathematics courses through the use of applications in biology.

Burton states that the book is written for two audiences, those who take mathematics in their stride and turn to the book for its biology and those who

are uneasy with calculations and equations, who have least natural inclination to read about them. Thus, for the aspiring biologist stuck in a mathematics class that they do not like nor do well in, *Biology* could be a very valuable support mechanism. That Burton intends one use of this book to be in a course is also suggested by his not including the answers to the many questions posed in the text.

The topics covered include arithmetic, units of measurement, aspects of energy metabolism, proportions, percentages, trophic levels in an ecosystem, sodium in animals and plants, exchanges of water and carbon dioxide, geometric series, logarithms, exponential relationships, allometry, predator-prey relations, and branching systems.

Every chapter contains a great wealth of examples, which is one of *Biology's* strengths. Another is that Burton is very competent in mathematics and in biology, you can rely on the information. The examples used to illustrate the mathematics concepts most frequently come from ecology, but in total Burton's range is in much greater, and almost every aspect of biology

receives mention, if the mathematics can be kept elementary. A software program that covers many of the ecological examples is RAMAS ([www.ramas.com](http://www.ramas.com))

Do not expect very advanced mathematics. For example, the applications of fluid dynamics in animal locomotion or in physiology are not discussed. Only two of the "ten equations that changed biology" (1) are described: Michaelis-Menton and allometry.

The book is very nicely printed, although sometimes lines are compressed to the point that there is too little space between words. ♦

#### Reference

1. Jungck, J. R. Ten equations that changed biology: mathematics in problem-solving biology curricula. *Bioscience* 23: 11-36, 1997.

Peter J. Wilkin  
Purdue University North Central

### The Scientist as Consultant: Building New Career Opportunities

C. J. Sindermann and T. K. Sawyer  
(Editors)  
New York: Plenum, 1998, 341 pp.,  
index, \$29.95  
ISBN: 0-306-45637-0

This book offers very relevant and important information for anyone considering a career in the world of scientific consulting. The information is taken from the authors' own personal experiences, as well as a survey of over 100 professionals. The result is a primer for any individual interested in testing the waters or taking the plunge.

The book is broken into three sections: broad perspectives, operational considerations, and special topics. The first section addresses why a person would want to go into consulting and reviews the process of going from solo practitioner to consultant as well as other meaningful topics. Chapter 2, in particular, reviews the process of going from graduate student to consultant and everything in between.

The middle section that discusses operational considerations reviews the nuts and bolts of business consulting, including how to organize a consulting practice, consulting group, and organization. This section does a nice job of outlining the important factors required for establishing such a business, not just the wing-it attitude professed by those consultants who are not so successful. The authors point out that foremost the consulting business should be defined at the beginning—as a hobby or for profit.

Chapter 7 covers an important

topic that many scientists neglect—ethics. The consultant must make sure that personal morals and ethics are not compromised. Not to be outdone in importance, Chapter 8 discusses another topic that can make or break a new consulting practice, and that is marketing. Once the initial wave of business comes and goes, new business will be generated by those individuals that have a solid marketing plan that includes well-designed business cards, brochures, and supporting documentation.

The last section discusses many special topics such as megaconsulting, international consulting, junior professionals, and university faculty members. There are two chapters that provide especially insightful information. Chapter 11 reviews the legal aspect of consulting and the due diligence required when making recommendations that may lead to litigation. One important area not discussed is insurance. Most standard home policies will not cover litigation incurred during business activity so the consultant should seek some form of additional coverage. Chapter 13 outlines additional negatives related to business consulting. Subsections such as “Clients From Hell” and “Trying to Get Paid” are very poignant and realistic. Most scientific researchers adhere to the principle that people are good. However, in business today, only money is good and one's word is not worth spit; so get everything in writing.

Overall, I found the book to be an excellent collection of information and anecdotal evidence from individuals that have “walked the walk and talked the talk.” However, there are two issues that were left out of the book that I experienced during my own trek into

this unknown world. First, the local business environment is an important factor in the success of any business, but most importantly for the consultant. If there is not a large base of local companies or government agencies needing one's expertise, then one is forced to search for contacts and contracts via the telephone and travel. These can add considerable expenses during the critical first years. It is then imperative to develop a strong network during one's active academic or research career.

The second area missing is depression or self-worth assessment. There will be those days when prospecting calls are not returned or a contract falls through due to corporate downsizing or redirection. It is very easy to begin to doubt your own self-worth and expertise when these things happen. In addition, unless one has a sizable retirement pension or family income, short-term cash flow might need to be augmented by a secondary job that may not carry much prestige or financial reward.

In summary, I believe that those entering the scientific consulting business today, and in the future, will confront the same challenges they experienced during their academic and research careers. To wit, there will still be too many of us seeking the limited number of consulting projects just like we did when looking for academic and research positions. Fortunately, consulting projects in health care, alternative therapy, and nutraceuticals will provide an avenue of income outside traditional industry for those individuals willing to open a new door. ♦

*Robert L. Hesslink, Jr.  
Consultant*

**Mark your calendar!**  
**EB '99 abstracts are due November 16, 1998!**

## Book Reviews

### Peripheral Arterial Chemoreceptors and Respiratory Cardiovascular Integration

M. de Burgh Daly  
New York: Oxford University Press,  
1997, 739 pp., illus., index, \$225.00  
ISBN: 0-19-857675-7

This is an excellent monograph on the peripheral chemoreceptors. This monograph consists of 18 chapters and cites 2,028 references. The references cover the studies dating back to 18th, 19th, and the first half of this century until now. It gives an excellent account on different stages of how peripheral chemoreceptors (mainly the carotid bodies) are revealed by scientific investigators from different disciplines (anatomists, embryologists, histologists, physiologists, and physicians). It presents, vividly, a dynamic progress of our understanding of the peripheral chemoreceptors, from early misconceptions to our modern views of this important, though very tiny, organ in the control of breathing as well as hemodynamics.

This book gives detailed background on circulatory and respiratory responses to activation of the arterial

chemoreceptors, as well as to activation of pulmonary receptors. It also gives a good insight into how the input from these two sources interacts, as well as the interaction between chemoreceptors and other sources. It gives good discussion on additive summation, and synergistic summation. However, it gives less concern on a redundancy pathway; that is the resulting response becomes smaller than the algebra sum of two excitatory responses evoked simultaneously.

I like this book. It is a summary of the life-long research experience of Daly. I would like to appeal to other senior physiologists to read this book, at least to scan through it in hope that they will follow the suit. After saying that, I think I am obligated to give criticism. This book is superb in dealing with the past on the chemoreceptors; however, it did not lead to the future. I am sure that after decades of investigation, more puzzles have been created than resolved. As matter of fact, we still do not know the fundamental basics. How are  $P_{CO_2}$  or  $P_{O_2}$  sensed? How are the signals transformed into nerve impulses? I think the opinion from experienced seniors on the future is equally important to the opinion on the past. We need more inspiration from a monograph like this.

In short, this is an excellent monograph. I enjoyed reading it, and I rec-

ommend physiologists read it as a relaxant. I believe four groups of people, in particular, will benefit a lot from reading this monograph:

1) Scientists who are interested in the neural control of cardiopulmonary system, especially those who are interested in the chemoreceptors, because this book clearly, systematically, and logically describes peripheral chemoreceptors in a simple way.

2) People who are interested in medical history, because it provides a nice historical development of our understanding of the chemoreceptors with a rich references and valuable critic of the studies.

3) Educators who give lectures on control of circulation and breathing to undergraduate and graduate students, because the monograph contains such wealthy materials that are ready to be extracted for one to several lectures.

4) Senior physiologists who left their active bench work, because I think this book could stimulate them to do similar work, i.e., writing monographs or review articles in the area of their research interests. The writing not only gives joy to the seniors but, more importantly, will leave treasures for generations to come. ♦

Jerry Yu  
University of Louisville

### Management of Biomedical Research Laboratories

**Purpose:** Professionals in all aspects of the management of biomedical research laboratories will discuss topics vital to the advancement of biomedical science, the careers of researchers, and the integrity of research. These discussions will provide the basis for the development of educational materials, courses, and training workshops.

**Who should attend?** Veteran, new, and prospective laboratory directors, researchers, research administrators, post-doctoral fellows, graduate students.

**When and where?**

October 1-3, 1998

The University of Arizona Memorial Student Union

**Contact:**

Noah Lopez  
The University of Arizona  
Extended University  
P.O. Box 210158  
Tucson, AZ 85721-0158  
Tel.: 520-626-9060  
Fax: 520-621-3269



## Books Received

*Central Auditory Processing and Neural Modeling.*

Paul W.F. Poon and John F. Brugge (Editors).

New York: Plenum, 1998, 282 pp., illus., index, \$95.00.

ISBN: 0-306-45836-5.

*Comparative Vertebrate Endocrinology*, 3rd Edition.

P.J. Bentley.

New York: Cambridge University Press, 1998, 526 pp., illus., index, \$44.95.

ISBN: 0-521-62998-5.

*Free Radicals, Oxidative Stress, and Antioxidants: Pathological and Physiological Significance.*

Tomris Özben (Editor).

New York: Plenum, 1998, 395 pp.,

illus., index, \$129.50.

ISBN: 0-306-45813-6.

*Handbook of Physiology.*

*Section 7: The Endocrine System, Volume I: Cellular Endocrinology.* P. Michael Conn and H. Maurice Goodman (Editors).

Bethesda, MD; American Physiological Society, 1998, 601 pp., illus., index, \$149.50.

ISBN: 0-19-510935-X.

*Oxygen Regulation of Ion Channels and Gene Expression.*

José López-Barneo and E. Kenneth Weir (Editors).

Armonk, NY: Futura, 1998, 352 pp., illus., index, \$120.00.

ISBN: 0-87993-694-0.

*Physiological Basis of Ventilatory Support.*

John J. Marini and Arthur S. Slutsky (Editors).

*Lung Biology in Health and Disease, Vol. 118.*

New York: Dekker, 1998, 1464 pp., illus., index, \$295.00.

ISBN: 0-8247-9861-9.

*Physiology and Pathophysiology of Temperature Regulation.*

Clark M. Blatteis (Editor).

River Edge, NJ: World Scientific, 1998, 294 pp., illus., index, \$32.00.

ISBN: 981-02-3172-5.

## Mass Media Science and Engineering Fellowship Applications Being Accepted

**BACKGROUND:** Applications are currently being accepted for an APS sponsored American Association for the Advancement of Science (AAAS) Mass Media Science and Engineering fellow. This individual will spend a summer working in the newsroom of a newspaper, magazine, or radio or television station, sharpening his or her ability to communicate complex scientific issues to non-scientists and helping to improve public understanding of science.

**DUTIES:** The APS-sponsored fellow will spend 10 weeks helping to cover science and technology issues. AAAS will arrange placement at a participating media outlet as part of the selection process. The fellowship will include travel to Washington for an advance orientation to journalism and an evaluation session at the conclusion of the assignment, as well as travel to the job site and a weekly stipend based upon local cost of living.

**ELIGIBILITY:** You must be currently enrolled as a graduate or postgraduate student of physiology or a related discipline.

**APPLICATION INFORMATION:** Application forms are available from Alice Hellerstein in the APS Office of Public Affairs at the address below. In addition to the completed form, applicants must submit a current résumé, at least one three- to five-page writing sample directed to the general public, transcripts of graduate and undergraduate work, and three letters of recommendation. Two recommendation letters should be from faculty members, and the third should be a personal reference. The selection process is designed to seek out qualified candidates especially from underrepresented communities, including blacks, Hispanics, and Native Americans, as well as scientists with disabilities.

**DEADLINE & CONTACT:** The application deadline is **January 15, 1999**. For more information, contact Alice Hellerstein, APS Office of Public Affairs, 9650 Rockville Pike, Bethesda, MD 20814-3991. Tel: 301-530-7105; fax: 301-571-8305; e-mail: [ahellers@aps.faseb.org](mailto:ahellers@aps.faseb.org).



# Scientific Meetings and Congresses

## 1998

### August 17-21

**Rice University Institute of Biosciences and Bioengineering Sixth Annual Seminar: Advances in Tissue Engineering**, Houston, Texas. *Information:* Rice University, School of Continuing Studies - MS 550, 6100 Main Street, Houston, TX 77005-1892. Tel: 713-527-4803; fax: 713-285-5213; e-mail: [scs@rice.edu](mailto:scs@rice.edu); Internet: <http://www.rice.edu/scs/tissue>.

### August 23-28

**Fifth International Congress of Comparative Physiology and Biochemistry**, Calgary, Alberta, Canada. *Information:* Secretariat, Fifth International Congress of Comparative Physiology and Biochemistry, Special Events and Conference Office, University of Calgary - Olympic Centre, 2500 University Drive NW, Calgary, Alberta, Canada T2N 1N4. Tel: 403-220-5261; fax: 403-289-9311; e-mail: [iccpb@acs.ucalgary.ca](mailto:iccpb@acs.ucalgary.ca); Internet: <http://acs.ucalgary.ca/~iccpb99/>.

### August 30 - September 4

**IX Congress on Neuromuscular Diseases**, Adelaide Convention Center, Adelaide, Australia. *Information:* [www.unisa.edu.au/hlt/prm/neuroconf/confttl.htm](http://www.unisa.edu.au/hlt/prm/neuroconf/confttl.htm).

### September 3-5

**International Symposium on Ovarian Aging and Failure**, Brussels, Belgium. *Information:* Belgian Menopause Society, 251 Avenue Reine Astrid, 1950 Kraainem/Belgium. Tel: +32-0-2-569-81-33; fax: +32-0-4-254-12-90; e-mail: [ypc@compuserve.com](mailto:ypc@compuserve.com).

### September 6-9

**European Atherosclerosis Society 70th EAS Congress**, Jerusalem, Israel. *Information:* Yechezkiel Stein, 70th EAS Congress, PO Box 50006, Tel Aviv 61500, Israel. Tel: +972-3-5140014; fax: +972-3-5175674 or 5140077.

### September 10-11

**Functional Genomics: Novel Methods for Understanding Biological Function (IBC's Third International Symposium)**, Seattle, Washington. *Information:* IBC, 225 Turnpike Road, Southborough, MA 01772-1749. Tel: 508-481-6400; fax: 508-481-7911; e-mail: [inq@ibcusa.com](mailto:inq@ibcusa.com); Internet: <http://www.ibcusa.com/conf/genome>.

### September 19-23

**European Respiratory Society Annual Congress**, Geneva, Switzerland. *Information:* European Respiratory Society, 1 boulevard de Grancy, CH-1006 Lausanne, Switzerland. Tel: 41-21-613-02-02; fax: 41-21-617-28-65; e-mail: [@ersnet.org](mailto:@ersnet.org).

### September 27-October 1

**Brisbane '98: Asian-Oceania Congress of Australian Physiological and Pharmacological Society, Australian Neuroscience Society, and Physiological Society of New Zealand**, Brisbane, Australia. *Information:* Brisbane '98 Secretariat, GPO Box 2609, Sydney, NSW 2001, Australia. Tel: +61-2-9241-1478; fax: +61-2-9251-3552; e-mail: [reply@icmsaust.com.au](mailto:reply@icmsaust.com.au).

### October 14-18

**American Association of Electrodiagnostic Medicine 45th Annual Scientific Meeting**, Orlando, FL. *Information:* AAEM, 21 Second Street SW, Suite 103, Rochester, MN 55902. Tel: 507-288-0100; fax: 507-288-1225; e-mail: [aaem@aol.com](mailto:aaem@aol.com).

### October 10-12

**Metabolism and Exercise: Regulation and Integration of Physiological Systems**, Cleveland, OH. *Information:* Marco E. Cabrera, Case Western Reserve University, 11100 Euclid Avenue, Cleveland, OH 44106-6011. Tel: 216-844-5085; fax: 216-844-5478; e-mail: [mec6@po.cwru.edu](mailto:mec6@po.cwru.edu); Internet: <http://www.ccf.org/ri/bme/bmes>.

### October 10-13

**Relating Biomedical Engineering Research to Clinical and Commercial Applications. Annual Meeting of the Biomedical Engineering Society**, Cleveland, OH.

*Information:* Cleveland Clinic Foundation, Department of Continuing Education, 9500 Euclid Avenue TT31, Cleveland, OH 44195. Tel: 216-444-5696 or 1-800-762-8173; fax: 216-445-9406.

### October 18-23

**Principles and Practice of Tracer Methodology in Metabolism**, Galveston, Texas. *Information:* Robert R. Wolfe, PhD, Course Director, UTMB/Shriners Burns Institute, Metabolism Department, 815 Market Street, Galveston, TX 77550. Tel: 409-770-6623; fax: 409-770-6825; e-mail: [rwolfe@sbi.utmb.edu](mailto:rwolfe@sbi.utmb.edu).

### October 26-29

**2nd International Conference on Transgenic Animals**, Beijing, China. *Information:* Registration and Visa: Zhang Zhong-Lian, e-mail: [cicact@public.bta.net.cn](mailto:cicact@public.bta.net.cn); Abstract and scientific program: Dr. Carl A. Pinkert, e-mail: [pinkert@uab.edu](mailto:pinkert@uab.edu); Internet: <http://www.cicact.org.cn/icta>, <http://www.public.iastate.edu/~pigmap/community/meetings.html>, <http://www.freelyellow.com/members2/2ndicta>.

### November 7-12

**Twenty-eighth Annual Meeting of the Society for Neuroscience**, Los Angeles, California. *Information:* Jamie L. Swank, Program Director, Society for Neuroscience, 11 Dupont Circle, NW, Suite 500, Washington, DC 20036. Tel: 202-462-6688; Internet: <http://www.sfn.org>.

### December 2-16

**American Society for Cell Biology Thirty-Eighth Annual Meeting**, San Francisco, CA. *Information:* American Society for Cell Biology, 9650 Rockville Pike, Bethesda, MD 20814-3992. Tel: 301-530-7153; fax: 301-530-7139; e-mail: [ascbinfo@ascb.org](mailto:ascbinfo@ascb.org); Internet: <http://www.ascb.org/ascb>.

## 1999

### February 20-26

**Medical Imaging 1999**, San Diego, CA.

*Information:* International Society for Optical Engineering (SPIE), PO Box 10, Bellingham, WA 98227-0010. Tel: 360-676-3290; fax: 360-647-1445; e-mail: [mi99call@spie.org](mailto:mi99call@spie.org); Internet: <http://www.spie.org/info/mi/>.

### April 5-8

**Physiology Teaching in the Developing World: Models for Quality Learning**, Karachi, Pakistan. *Information:* Dr. Arif Siddiqui, Conference Secretariat, International Workshop on Physiology Teaching, The Aga Khan University, Stadium Road, Karachi-74800, Pakistan. Tel: +92-21-493 0051, ext. 4567; fax: +92-21-493 2095 or 493 4294; e-mail: [arif.siddiqui@aku.edu](mailto:arif.siddiqui@aku.edu).



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To visit the APS home page, go to  
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