

# THE PHYSIOLOGIST



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## Sixty-Fifth President of APS

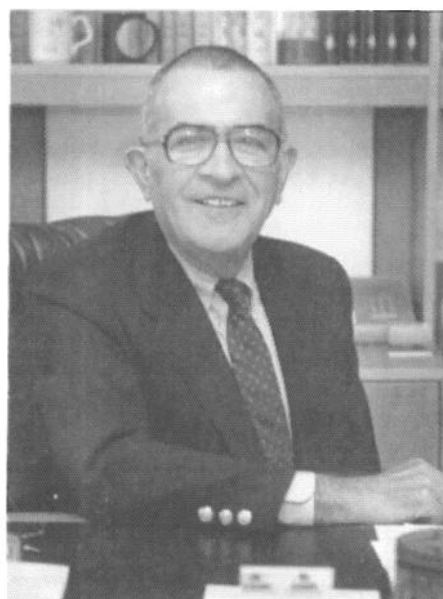
### Stanley G. Schultz

Stanley G. Schultz, professor and chairman of the Department of Physiology and Cell Biology at the University of Texas Medical School in Houston, was installed as the 65th President of the American Physiological Society at the close of the Society's Spring Meeting in Anaheim, CA.

During the 26 years he has been a member of the APS, Schultz has served as editor of the *American Journal of Physiology: Gastrointestinal and Liver Physiology*, *Physiological Reviews*, the second edition of the *Handbook of Physiology: Gastrointestinal System*, and is currently an associate editor of *News in Physiological Sciences*. He also served on the recent Long Range Planning Committee chaired by Ernst Knobil, whose report entitled "What is Past is Prologue" was published in the December 1990 issue of *The Physiologist*.

"I think that one of the most important consequences of that report is that it prompted the restructuring of FASEB, which made it more attractive for other societies to join that organization," Schultz said. "Already the Society for Cell Biology and the Biophysical Society have become regular members, and I hope that in the not-too-distant future other

(continued on p. 23)



### An Interview With the President

*Stanley Schultz gives a glimpse of his views concerning physiology and the American Physiological Society going into the 21st century.*

Within a few years the world will move into the twenty-first century. Reflecting back on the past, what do you consider to be the significant changes and advances made within the discipline of physiology during this century?

"The explosive advances in molecular biology and technology during the past fifty years give us confidence that, in time, barring a global catastrophe, we will be able to understand how living things function from 'first biological princi-

(continued on p. 24)

#### Inside . . .

NSF News .....	p. 22
Past President's Reflections.....	p. 26
NIH Funding .....	p. 28
Sigma Xi Adopts Animal Use Policy.....	p. 30
Election Results .....	p. 36

# National Science Foundation Reorganized

## CONTENTS

### 65TH APS PRESIDENT

Stanley G. Schultz 21

### NSF NEWS

National Science Foundation  
Reorganized 22

### APS NEWS

Introducing Franklyn G. Knox 25  
Equipment Exchange 27  
Election Results 36

### PAST PRESIDENT

Past President's Reflections 26

### NIH FUNDING

Odds of Being Funded by NIH.  
D. E. Kelly and A. Shipp 28

### PUBLIC AFFAIRS

Sigma Xi Adopts Animal Use  
Policy. W. M. Samuels 30  
Animal Rights Awareness Week  
Bill Shelved by Sponsor 31

### PEOPLE AND PLACES

32

NIH NEWS 33

BOOKS RECEIVED 33

ANNOUNCEMENTS 34

POSITION AVAILABLE 35

Over the past several months the National Science Foundation (NSF) has undergone a substantial reorganization in the biological and social sciences that is quite relevant to the physiology community. Biology at NSF, which has been together with Social Sciences in a single Directorate, has now been split off into a single Biology Directorate with three research divisions and one support division. Each Division is divided into several program clusters. One of these new divisions is called Integrative Biology and Neurosciences (IBN) and includes within it a program cluster called physiology and behavior. Within this cluster are five programs (each with its own program officer). These five programs are animal systems physiology, functional and physiological ecology, endocrinology, integrative plant biology, and animal behavior.

The first three of these are particularly appropriate for members of APS. The first concerns mechanistic studies that address cell and organ systems physiology, excluding endocrinology and neurophysiology. The second focuses on the organism and includes studies in comparative physiology,

physiological ecology, biomechanics, and functional morphology. Even highly mechanistic studies that relate clearly to organismal adaptation or performance are appropriate in this program. Endocrinology includes comparative and general endocrinology, reproductive physiology, molecular endocrinology, hormone receptors, and intracellular signaling.

The other Program Clusters within the IBN Division are Neurosciences and Developmental Biology. The structure of Neuroscience at NSF has changed little in the new organization and includes the following programs: neuroendocrinology, neural mechanisms of behavior, sensory systems, neuronal and glial mechanisms, developmental neuroscience, synaptic mechanisms, and cognitive, computational, and theoretical neurobiology.

The other research divisions are the Division of Cellular and Molecular Biology and the Division of Environmental Biology. The former includes program clusters in genetics and nucleic acids, cell biology, and biochemistry and molecular structure and function. The latter includes population biology, ecological studies, systematics, etc. A fourth division in the Biology Directorate is the Division of Biological Instrumentation and Resources, which includes programs in instrumentation and instrument development and in special projects.

This new organization is already in place, and existing proposals have been assigned accordingly. Review panels scheduled to meet this spring will still function as before, but budgetary assignments will reflect the new organization. The new organization will be fully in place for the June 1 proposals, and the fall panels in which these proposals are evaluated will be constituted within the new framework.

A formal description of the new NSF structure will be available this spring. For further information prior to that time, please contact the program officer in your research area.

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## SCHULTZ

(continued from p. 21)

societies will join and make FASEB even more representative of the biomedical research community. The public affairs functions of FASEB are becoming increasingly important in these difficult times and the greater its constituency, the greater its clout," he said.

Schultz was elected to the Council in 1989 and as president-elect in 1991. During his presidency, he plans to continue and expand Past-President Norman Staub's efforts to increase the role of the APS in education. "We have not done enough to stimulate the active involvement of the lay public in the support of biomedical research," he said, "and we must do more to cultivate and foster a continuing interest in science and biology among the best and brightest of our youth at all ages. We must become more involved in the 'grass roots' level."

One approach will be to encourage and support the formation of state or regional physiology chapters and urge members to become actively involved in school programs, science fairs, and other local educational programs. Another will be to mobilize the support of the biomedical industries for a nationwide program designed to inform the public of the benefits and cost-effectiveness of biomedical research.

Schultz grew up in New York City. He received his baccalaureate, *summa cum laude*, from Columbia University in 1952 and his M.D. degree from New York University four years later.

After serving an internship and residency in internal medicine, he became an NIH postdoctoral fellow in cardiology and developed an interest in electrocardiography. It was this interest that prompted him to learn more about membranes and electrophysiology, and in 1959 he joined the Biophysical Laboratories of the Harvard Medical School sponsored by a National Academy of Sciences/National Research Council Fellowship in Academic Medicine.

"That lab, under the direction of A. K. Solomon, was the hotbed of membrane biophysics, and many of the greats—Andrew Huxley, Hans Ussing, Peter Mitchell, among other—visited on a number of occasions," Schultz recalls. "It was a wonderful environment in which to learn and work."

In 1962 Schultz was inducted into the Air Force as a Captain in the Medical Corps and was stationed at the Brooks Aerospace School of Medicine in San Antonio, Texas, where his primary responsibilities included teaching radiation biology, monitoring Air Force research contracts, and carrying out research dealing with the biological effects of radiation. It was here that he launched his research interest in epithelial transport and, together with Ralph Zalusky, demonstrated, for the first time, sodium-coupled sugar and amino acid absorption by small intestine. These and subsequent findings established the "sodium-gradient" hypothesis and provided the rationale for the later development of oral dehydration therapy.

Schultz rejoined the Biophysical Laboratories in 1964 as an Established Investigator of the American Heart Association and was promoted through the ranks of instructor and associate in biophysics. In 1967 he joined the Department of Physiology at the University of Pittsburgh School of Medicine as an associate professor and was promoted to the rank of professor three years later. He assumed his present position in 1979.

Schultz is widely recognized for his contributions to the understanding of epithelial ion transport. In addition to his work on sodium-coupled nonelectrolyte absorption, he was one of the first to recognize the roles of paracellular pathways in epithelia. In 1979 he and his former students Raymond Frizzell and Michael Field suggested a cellular model for chloride secretion by epithelial cells that is now widely accepted. More recently he advanced the notions of "homocellular regulation" of composition and volume and the "pump-leak" parallelism in epithelial cells—subjects that are currently under investigation in a number of laboratories.

"A research career, though requiring hard work, should at the same time be spiritually uplifting and great fun," Schultz said. "Indeed, when I started out I was having so much fun that I felt guilty accepting my paycheck, which was all of \$500 per month. Regrettably, in recent years the climate has changed. Many bright and talented young investigators are distracted by insecurities. Instead of spending time thinking creatively, many are consumed with scratching around for funding and worrying about their futures. This climate lends itself to sloppy, unimaginative science and, in the extreme, scientific misconduct. It's no wonder that we are no longer attracting the best and the brightest of our youth."

"Senior scientists, individually, and organizations such as the APS, collectively, must do everything possible to reverse this destructive trend," he continued. "If this country is to retain its position of preeminence in biomedical research, we must restore an atmosphere conducive to contemplative, creative thought and attractive to young talent. One thing we must do is lobby for a national science policy that ensures adequacy and long-term stability of funding for biomedical research and training. In addition, our academic institutions must behave more responsibly in the future. Over the course of many bountiful years, huge enterprises were built on soft sand and the chickens have now come home to roost. I hope we've learned a lesson."

Schultz has served as a member of chairman of the Physiology Test Committee of the National Board of Medical Examiners and president of the Association of Chairmen of Department of Physiology. His awards include the Hoffman-LaRoche Prize for Outstanding Contributions to Gastroenterology and elections to the Association of American Physicians, to Honorary Membership in the American Gynecological and Obstetrical Society, and as Overseas Fellow of Churchill College, Cambridge University. In 1981, Schultz was listed among the 1,000 most-cited contemporary scientists and the 35 most-cited contemporary physiologists by the Institute for Scientific Information.

## INTERVIEW

*(continued from p. 21)*

ples.' This is an important philosophical milestone in the evolution of the biological sciences.

**In looking ahead to the twenty-first century, what changes do you foresee within the next decade or two for the discipline of physiology, in particular, and for the biomedical sciences, in general?**

"Unquestionably, during the next few decades, we will gain an understanding of many 'life processes' at the molecular level. But, that's the easy part. The hard part will begin when we attempt to integrate the results of decades of reductionism and reconstruct or reconstitute complex functions of organs and organisms. Fifty years from now physiologists will be a very different breed of scientists than they were fifty years ago, having to span a vast knowledge base from molecules to man."

**In today's world there are two serious issues confronting science: funding for research and the use of laboratory animals for teaching and research. In addition to what the Society already is doing, what else should APS be doing in this regard?**

**Funding:** "Let's face it. The biomedical sciences are in stiff competition for limited federal dollars with other high national priorities that cry for more resources such as education, health and welfare, rebuilding the inner cities, etc. In addition, the demands of 'applied' ('directed') biomedical research threaten to cut into funding for 'basic' biomedical research. While the APS and other biomedical organizations must increase public affairs efforts directed toward obtaining equitable funding for basic research, these are largely aimed at legislators and may not be enough. We must do more to convince the lay public of the benefits and cost effectiveness of biomedical research.

"In addition, cases of scientific misconduct and abuses of indirect costs that are featured on the front pages of major newspapers certainly don't help our cause. We must do everything possible individually and in groups to restore and maintain public confidence in the integrity of our enterprise."

**Animal issues:** "Animal activists represent a small but well-organized and vocal segment of our society. I am confident that the vast majority of the public would wholeheartedly endorse the humane use of animals for research and teaching—if they were given a voice. We and other biomedical organizations must do more to alert the lay public to the benefits to their lives and those of their children and their children's children of the continued humane use of animals for research and teaching and to the dangerous consequences of the activities of animal activists."

**Projections by both the public and private sectors in-**

**dicating a probable shortage of biomedical scientists by the beginning of the twenty-first century. What should APS be doing to blunt such projection?**

"Quite frankly, I'm more interested in and concerned with quality than quantity. I don't know about a shortage in numbers, but there is good reason to project a shortage in talent. We must make a career in biomedical research more attractive for the best and the brightest of our youth. This will take a lot of doing because at present, between the job market and the granting situation, the outlook for many postdoctoral fellows is quite gloomy. I would like to see the APS initiate educational programs designed to cultivate and sustain a continued interest in biology among the best and brightest of our youth at all ages. In addition, we should lobby for and participate in the development of attractive pre- and postdoctoral training programs; stipends should be more realistic; payback provisions should be dropped. First awards should be easier to obtain and should not have to compete with grant applications from more seasoned investigators."

**What is your overall assessment as to the strong points of APS today? What are its weaknesses?**

"The obvious strengths of the APS include its outstanding publications and its considerable resources which permit it to sponsor first-class meetings, support innovative ideas, etc. Perhaps the truly unique strength of the APS is that it is the only society that represents integrative biology at all levels of organization from molecule through man. But, at the same time, this is its greatest weakness. The explosive growth of biological knowledge during the past fifty years has forced all of us to become specialists, if not subspecialists. Driven by tribal instincts, we've developed specialized societies and, in some instances, specialized languages or dialects. This is the price we pay for success.

"The APS should not try to fight this—it would be a losing battle! Instead, we should focus our efforts and resources on doing those things that we alone can do in a superlative manner. By capitalizing on our unique strengths, we can be of great service to the biomedical community and make the APS the 'flagship biomedical society' of which the membership can be proud."

**Recently APS held a long-range planning retreat to explore avenues the Society should take in preparing for the twenty-first century. What are the significant outcomes of this retreat?**

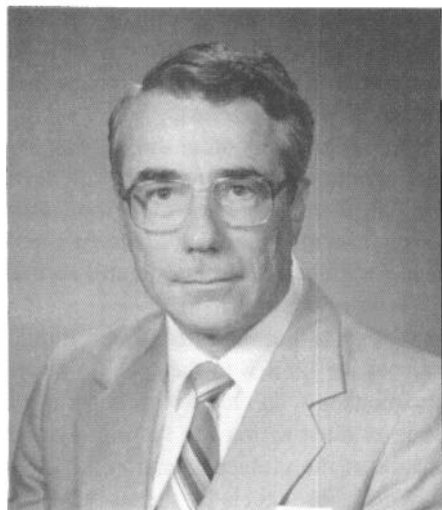
"One of the major decisions made at our strategic planning retreat was to use some of the income of our managed accounts to expand our roles in education and public affairs, increase benefits to members, and sponsor superlative scientific and educational programs.

"By 1993, we hope to open an education office that will be responsible for expanding and coordinating our education-

*(continued on p. 25)*

Introducing . . .

## Franklyn G. Knox



**Franklyn G. Knox**, who has served as president of both the American Physiological Society and the Federation of American Societies for Experimental Biology, has accepted the chairmanship of the APS Finance Committee. Knox, whose appointment was effective January 1, replaces Norman P. Alpert.

A 23-year member of APS, Knox has played an active role in Society affairs in addition to being its president in 1986-87. He was a member of the APS Council, 1982-85; chairman of the Committee on Committees, 1983-85; chairman of the Program Committee, 1982-82; chairman of the Renal Section, 1975-77; member of the Long Range Planning Committee since 1984; and member of the Finance

Committee since 1989.

In his letter accepting the appointment Knox said, "In regard to the direction for the Committee, the most important objectives will be to match the ambitions of the Society as articulated in the recently developed [APS] strategic plan with the financial resources of the Society. We will not be encouraging additional growth in the reserve funds, inasmuch as these have reached the target levels prudent for the Society, but rather will look to using the resources for implementation of the initiatives considered to be the highest priority by Council."

Knox recently stepped down from the posts of dean of the Mayo Medical School and director for education of the Mayo Foundation, positions he held for nearly 10 years. He currently is professor of physiology and medicine and Mayo Foundation Distinguished Investigator.

The Rochester, New York, native earned a baccalaureate degree in pharmacy at the University of Buffalo in 1959 and both MD and PhD degrees at SUNY-Buffalo in 1965. After completing his doctorates, he worked for three years as a staff associate at the National Heart Institute's Laboratory of Kidney and Electrolyte Metabolism under the direction of Robert W. Berliner, who preceded Knox by 19 years as president of APS.

Knox moved to the department of physiology at the University of Missouri School of Medicine in 1968 and then to the department of physiology and biophysics at Mayo in 1971. He was appointed department chairman in 1974. In 1978 he was named associate director for graduate education: research and training degrees at the Mayo Graduate School of Medicine and was selected in 1983 for the posts of dean and director for education.

Other members of the committee are Robert W. Gore and M. Ian Phillips and ex officio members Stanley G. Schultz and Charles Tipton. ☞

### INTERVIEW

(continued from p. 24)

al programs directed toward biomedical scientists, high school teachers, members of underrepresented minorities, the lay public, and college and precollege students.

"In addition, we are examining the possibility of establishing travel awards for APS members that will permit them to attend meetings and/or visit other laboratories to acquire training that would enhance their research potentials.

"Within the next few years we hope to sponsor four interdisciplinary, thematic conferences per year. The first APS Conference, "From Channels to Crossbridges", was truly superlative; if we can sponsor four yearly, we will be doing a great service to the biomedical research community.

"In addition, we hope to endow a number of distinguished lectureships to be held during the Spring Meeting. These lectureships might be named after distinguished physiologists and handled by the individual sections.

"In short, the APS has reached an enviable point in its history and we have every reason to feel upbeat about its future. We are in a position to do things for the scientific community and our membership in new and important ways."

**What goals do you hope to achieve during your tenure as president of the APS?**

"With the help of Council and the standing committees of the Society, I look forward to beginning the implementation of some of the new actions that we identified during the strategic planning retreat. The fruits of some of these actions can be recognized quickly; others will take time. I am particularly excited about our new and expanded role in education and hope that this excitement will be shared by future leaders of the Society and the membership." ☞



## Past President's Reflections

Vernon S. Bishop  
Department of Pharmacology  
University of Texas Health Science Center  
at San Antonio

In the past, the Past President's Address was presented after the banquet at the APS Annual Fall Meeting. The address was usually related to the state of physiology and the Society and was also published in *The Physiologist*. However, with the transition of the Fall Meeting into the APS conference format, the Past President's presentation was moved to the Spring Meeting. This change was officially initiated in the spring of 1991.

Unfortunately, because of the numerous activities associated with the FASEB meeting, it was not possible to find an appropriate time for the Past President's Address. As a result, the Society sponsored a Past President's symposium on Factors Affecting the Regulation of the Arterial Baroreflex, which was organized and presented at the meeting.

In keeping with the tradition of publishing the Past President's reflections, I have proposed this report, which summarizes some of the activities that occurred during my tenure, as well as my views and concerns related to physiology.

At the onset of my presidency, the Long Range Planning Committee (LRPC) provided council with a preliminary progress report on the charge given to them in October 1987. The charge was to develop a white paper on the future of physiology, make recommendations on the relationship of APS to FASEB, develop a plan for a more active leadership, make recommendations on how the Society could best serve the sections, and make recommendations concerning the number and characteristics of various meetings of the Society. This editorial will address several aspects of the final report of the LRPC (see *The Physiologist*, Vol. 33, No. 6, 1990).

An apparent tradition of the Society and the membership is the obsession with the future of physiology. During the past 50 years, Council has commissioned numerous individu-

als and groups to report on the future of physiology. As previously mentioned, one of the charges to the LRPC in 1987 was to develop a white paper on the future of physiology and the APS. It was noted in this paper that the issues and concerns in each of the previous self assessments were remarkably similar. Perhaps the obsession with the future of physiology is related to the fact that physiology is difficult to define as a specific scientific discipline. Additionally, most physiologists have a definition of physiology that is usually closely related to their own interest.

Physiology, unlike many other disciplines, is not defined by the technology employed, a process, or the level of the organism. Although there have been numerous attempts to define physiology, it seems to me that the most appropriate definition is "that discipline which investigates regulatory mechanisms at all levels of the organism."

For physiology to continue to attract young scientists, physiology cannot be limited to the specific levels of the organism. Physiologists who study regulatory mechanisms at the systemic level must appreciate the importance of regulatory mechanisms at the molecular and cellular levels. Information obtained at these levels by the so-called "reductionist approach" will not only expand our knowledge of regulatory mechanisms but will also generate additional questions at other levels of the organism. Of course, the reverse is also true. Questions developed as a result of physiological studies at the organ or systemic levels will influence those individuals who are focusing on regulatory mechanisms at the molecular and cellular levels. Regardless of our individual views, the development of new technology will continue to result in the emergence of new areas of physiology. Consequently physiology will continue to expand; thus the future of physiology is not in jeopardy. However, the role of the Society could be in jeopardy unless we are willing to accommodate the new areas of physiology by sponsoring meetings that provide the scientific needs for all of physiology. We all can enjoy the journey if our research goals are not limited by our inability to acquire new technology. As noted by a very perceptive wife of a physiologist, "Physiology is a well-paid hobby."

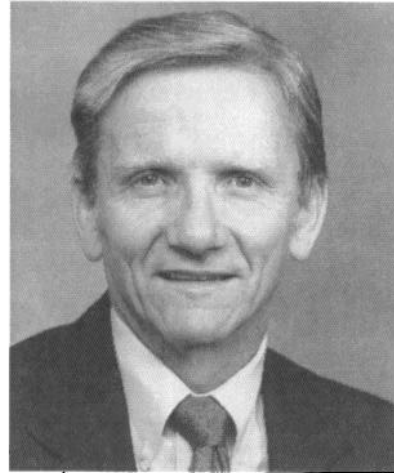
Closely related to the future of physiology is the ability of the Society to respond to the changing scientific needs of the physiologists. Through its publications, the Society has addressed many of the needs of the scientific community. The publications are clearly the flagship of the Society. The journals continue to expand, developing their own identities and becoming the best in their particular area of physiology. The success of the journals is due to the effective leadership of the Publications Committee, the publication staff, and the participation of the membership. The membership participates through the submission of high-quality manuscripts and through service as editors and reviewers. Unfortunately the membership does not support the journals through their subscriptions. Journal subscriptions generate most of the Society's revenue and should be something the membership supports.

In contrast the scientific quality of the meetings has not met the standards set by the journals, especially for the new emerging areas of physiology. On the advice of the LRPC, the Society has taken steps to remedy this problem. The first step involved the elimination of the Fall Meeting and the institution of one or more APS conferences each year (the designation of the specialty meetings as APS conferences was approved by Council at the Orlando meeting in 1990, following the report by the LRPC). Like the journals, the conferences should become a hallmark of the Society.

Two conferences were sponsored and managed by the Society this year (Channels to Crossbridges in Bar Harbor and Interactions Between the Endocrine and Cardiovascular Systems in Health and Disease in San Antonio). The success of these conferences will depend on the active participation of the members. Active participation means that the members are urged to submit ideas that are timely and of high scientific quality to their section Program Committee or to the Society's Program Committee. A second way to participate is to encourage active leaders in a given area to submit their ideas to the Program Committee and to encourage the participation of promising young investigators.

A second issue that developed during my tenure as President was the relationship of APS to FASEB and other societies. It was the view of Council and the LRPC that FASEB, with a constituency of six societies, did not adequately serve as an umbrella organization that could speak and represent the biomedical community. This conclusion was not necessarily new, since the effectiveness of FASEB had been an issue of concern for many years. There were many reasons why FASEB was viewed as ineffective, but the major reasons were related to the financial structure and the lack of participation of the societies in FASEB governance and other FASEB activities. A major factor limiting the recruitment of new societies was the financial structure. The size of the assessment each society had to pay for each of its members made it impossible for FASEB to attract new member societies. Although participating societies normally recovered their assessments from the profits of the annual FASEB meeting, the structure restricted the member societies from meeting independently of the FASEB meeting.

As a result of the LRPC report, Council passed a resolution requiring FASEB to essentially eliminate the assessment



Vernon S. Bishop

to recruit new societies and to eliminate restrictions that penalize member societies who elect to meet independently of the FASEB meeting (see *The Physiologist*, Vol. 32, No. 4, 1989). This resolution, which was accepted by the other member societies, led to a restructuring of FASEB in accordance with the resolution. The resultant changes in FASEB, which have occurred over the last two years, were due to the leadership of the APS and the persistent efforts of a number of people, including Aubrey Taylor, Shu Chien, and Marty Frank. During this period, we were able to persuade various groups of the importance of an umbrella organization that could speak for all of experimental biology. As a result of these efforts, the new FASEB is a true umbrella organization that is governed by the member societies.

The new FASEB Director, Michael Jackson, a physiologist, is providing the expertise that is needed to maintain the visibility of FASEB. During the last year, the FASEB Board of Directors have been recruiting new members. As noted in *The Physiologist* (1991), the Society of Cell Biology has accepted an invitation to join FASEB, and the prospect for additional new members, including the Biophysical Society, are excellent.

With respect to the future role of the APS, I believe it is clear that the Society has taken steps to meet the expanding needs of the scientific community. It is now up to the membership to assure that the programs, publications, and activities of the Society are of the highest quality.

## Equipment Exchange

APS member has respiratory quadrupole mass spectrometer with CRT, microprocessor, software, gas-control unit, and cables for sale. Cost is \$45,000 or best offer; cost new would be \$75,000. Bidirectional instantaneous flow devices also available. Call James Hagberg, University of Maryland, 301-405-2571.

## Odds of Being Funded by NIH

### Understanding Percentile Ranking and Success Rates

Douglas E. Kelly and Allan Shipp  
Association of American Medical Colleges  
Washington, DC

Investigators applying for new or competitive renewal grants from the National Institutes of Health (NIH) continue to express belief that their chance of funding is as low as only 1 in 10. This misapprehension is based largely on the percentile "paylines" of 10%–16% often predicted by "unofficial" sources early in the fiscal year. In fact, most NIH institutes eventually fund between 20% and 35% of the new and competing renewal requests they review. This is the so-called success rate. The success rate is not equivalent to the percentile payline determined by institute councils and staff based on the advice of initial review group (IRGs, or study sections). However, understanding the discrepancy between the two figures is difficult when intuition suggests that one's percentile ranking and proximity to the payline should be a numerical indicator of chances for success.

The success rate is the percentage of reviewed research project applications actually funded. The percentile payline reflects the position of the least meritorious percentile ranking at which applications are being funded. The difference can be understood by following the process of evaluating and scoring applications.

Table 1 illustrates a simplified sequence in which priority scores, numerical ranks, percentile scores, a percentile payline, and an eventual success rate are employed by one hypothetical NIH study section and one institute council and staff. The study section has assigned priority scores to 24 applications (some of which were funded) in 2 previous rounds

of evaluation. They now are considering and assigning priority scores to 12 more in the current round, for a total of 36. Six of the total cohort, including two in the current round, have been "not recommended for further consideration" (NR). They were not assigned priority scores. The remaining 30 applications now are ranked numerically.

The percentile ranking for each application (new and old) then is calculated by the formula

$$\frac{(\text{Numerical rank} - 1/2) \times 100}{36}$$

Duplicate priority scores, which frequently occur, share the same average percentile ranking. This is a major factor in accounting for the discrepancy between the percentile payline and the success rate that eventually emerges. Priority scores and percentile rankings for each of the 10 proposals that remain under consideration in the current round are sent to the institute council and staff for action. The example assumes the institute initially commits resources to assure funding for 3 of the 12 applications in the current round. The priority score of the least meritorious application assured of funding (from this one study section) is 140, and 140 is at the 11th percentile in the ranking of scores (the percentile payline). However, the resulting success rate for this round is 25% (3 applications from a total of 12). Any additional council- or staff-determined "out-of-order" awards would increase the success rate.

Five applications will be unfunded unless given out-of-order consideration for program relevance or other factors (such grants account for about 10% of all those funded by NIH). The final four (including 2 not-recommended proposals), constituting the "bottom tier", will probably not be considered by council.

In reality, each NIH institute usually receives percentile scores assigned by several of the 100 or so study sections. These are aggregated into one rank-order list for the institute and are funded according to the allocation to that institute, which varies with directives adopted in the several levels of the budget process. By the end of FY 1990, the overall NIH success rate for individuals investigator proposals alone (RO1s, FIRST awards, and MERIT awards) was 23.3%. Among the various NIH institutes, centers, and divisions, the highest rate was 38.5%; the lowest, 16.5%. The overall success rate for all NIH research project applications was 24.0%, and the percentile payline for all NIH research project grants had risen to 20% (high, 33.8%; low, 15.9%).

NIH is encouraging study sections to increase the spread of priority scores, with the aim of producing greater differentiation among meritorious proposals. However, if the new approach is successful, percentile rankings for the current round of review (January 1992 Councils) will not be comparable to the two prior rounds. Therefore the rankings will be calculated on the basis of applications in that round alone. Percentile ranking for the following round will include one prior round. The third round will return to the usual three-round system.



This article summarizes a principal factor that differentiates percentile paylines from success rates. Other factors, such as the treatment of amended applications in each calculation and a slight difference in the pools of grants considered, do play noteworthy roles. However, the overriding fact is the two numbers represent inherently different calculations.

NIH has a difficult task maintaining a scoring system

that is equitable among study sections, is conducive to the fulfillment of individual institute missions, fully recognizes scientific merit, and is understandable to the research community.

*The authors wish to thank Lucille Nierzwicki of NIH for her assistance in compiling and interpreting current data.*

Table 1. Sequence of Evaluation for Funding by NIH

Study Section				Council		
Priority scores		Numerical rank	Percentile rank*	Receives priority score/percentile in current round	Action taken	Success rate†
Two prior rounds	Current round					
—	—					
—	120	1,	1.4	120/1.4	Funded @ 1.4 percentile	25%
130	130	2, 3	5.6	130/5.6	Funded @ 5.6 percentile	
140	140	4, 5	11.1	140/11.1	Funded @ 11.1 percentile	
150	150	6, 7	16.7	150/16.7	At margin	
160, 160	—	8, 9	22.2			
170	—	10,	26.4			
180, 180	180	11, 12, 13	31.9	180/31.9	Unfunded	
190	—	14,	37.5			
200	200, 200	15, 16, 17	43.1	200/43.1	Unfunded	
—	—					
220	—	18,	48.6			
—	—					
—	—					
250, 250	—	19, 20	52.8			
260	260	21, 22	58.3	260/58.3	Unfunded	
—	—					
280	—	23,	62.5			
—	290	24,	65.3	290/65.3	"Bottom Tier" Not considered by council	
300	—	25,	68.1			
—	—					
320	—	26,	70.8			
—	—					
—	—					
350	—	27,	73.6			
—	360	28,	76.4	360/76.4		
—	—					
380	—	29,	79.2			
390	—	30,	81.9			
NR, NR	NR	31, 32, 33	91.7	NR/91.7		
<u>NR, NR</u>	<u>NR</u>	34, 35, 36	91.7	NR/91.7		
24	12					

\*Percentile score =  $(\text{Numerical rank} - 1/2) \times 100$ , calculated on ranking of priority scores, not number of applications.  
36

†Success rate is percent of applications reviewed that are funded; here 3 of 12 reviewed in current round.

## APS Member Target of Canadian Activists

Shopowners in Alberta had to remove a brand of candy bars from their shelves after an animal rights group claimed to have injected the bars with oven cleaner because animals were used in the development of the candy.

The candy bar, called Cold Buster, was developed by Larry Wang, a faculty member at the University of Alberta and an APS member. The bar, developed last year, is designed to increase by as much as 50% human resistance to hypothermia. The candy contains skim milk, honey, chocolate, and some spices.

A group calling itself the Animal Rights Militia (ARM) claimed that it had injected 87 Cold Buster bars with oven cleaner "because of the decade-and-a-half-long history of animal suffering that is this candy's main ingredient." ARM charged that Wang had "slaughtered thousands of rats," adding that he has "frozen, starved, and injected with various drugs, including barbiturates, countless rats as part of the 'research' leading to the bar's invention."

Wang denied the allegations, saying that although testing for the bar included animal trials, the test did not hurt the animals. "There were no special manipulations," he said. "We were just measuring what they [the animals] can tell us with regard to metabolism."

Police said one of the tested bars was found to contain an alkaline substance that could have caused a burning sensation if eaten.

Cold Buster bars were developed with the help of the Canadian armed forces, and the tests involved putting scantily clad people in frigid rooms to determine the bar's ability to increase resistance to cold. The bar has become a snack for skiers and people who work outdoors.

## Sigma Xi Adopts Policy Supporting Animal Use in Research and Teaching

Sigma Xi, The Scientific Research Society has adopted a formal policy supporting the use of animals for research and teaching.

The prestigious 106-year-old Society adopted the policy after a lengthy survey of its chapters, clubs, and individual members that began in 1990 when the participants at the annual membership meeting urged that Sigma Xi become involved in the issue. All participating local groups and a majority of the individual members recommended adoption of a policy supporting the use of animals in scientific research and science education.

In announcing the policy, Sigma Xi president Rita R. Colwell said, "Sigma Xi's strong support for the use of animals in research follows from a balanced and thorough consideration of three separate, but related aspects of the issue: its importance for science, its value, and its conduct. [G]iven the world's health and other problems, it seems unwise to curtail research that is likely to have a major impact on these problems."

The policy recognizes that "the use of animals in research carries serious responsibilities" and that "mechanisms must be in place to ensure that unnecessary suffering is avoided and that the number of animals used is not excessive."

The policy calls for broader public education about the importance of animal research to scientific advances and medical treatment and endorses the need for scientists to be educated early in their careers about the proper use of animals. It opposed unnecessary restrictions on the use of animals and condemns attacks on life and property and hostile campaigns against individuals.

The opening paragraph of the policy statement reads:

"Sigma Xi, The Scientific Research Society advocates sound research. The Society recognizes the importance and value of animals in scientific research and science education, and it supports responsible use of animals in testing. Sigma Xi opposes unnecessary restrictions on the use of animals in these endeavors, and it encourages public education on the importance of continuing animal research to support advances in scientific knowledge and medical applications. Freedom of opinion and discussion concerning the use of animals in research must be safeguarded. However, attacks on life or property, hostile campaigns against individuals, and the use of distorted, inaccurate, or misleading evidence should be publicly condemned."

W. M. Samuels

### APS Membership Applications

Membership applications may be obtained from APS Membership Services, 9650 Rockville Pike, Bethesda, MD 20814. Applications received between February 1 and July 1 are considered for nomination by Council at the Fall Conference, and those received between July 1 and February 1 are considered for nomination at the Spring Meeting of the Society.

## Animal Rights Awareness Week Bill Shelved by Sponsor

The sponsor of a resolution proclaiming a week in June as Animal Rights Awareness Week has put the bill on the shelf.

Rep. Frank Pallone (D-NJ) has informed the bill's 65 cosponsors that H.J.R. 301 will not be pursued because it has been perceived by sportsmen as prohibiting hunting, fishing, and related activities.

Pallone said, "This resolution is comparable to a birthday or anniversary greeting, something purely commemorative and completely innocuous. However, the working of the resolution has created a misconception. The best way for me to clear the matter up is to remove this resolution from consideration."

"I do not agree with those who oppose hunting and fishing, wildlife management, or the raising of livestock and

farm animals. This resolution was in no way intended to suggest that society begin phasing out the raising of animals for food and the use of animals in medical research. However, it was my intention to point out that animals should be humanely treated while they are being legitimately used by humans.

"The use of animals in laboratory testing, when the goal is to develop vaccines, pharmaceutical drugs, and techniques that will advance the cause of medicine, is something I support. I consider it reasonable to insist that animals suffering be kept to an absolute minimum and that animals in laboratory settings be accorded the most humane treatment possible."

Pallone added in his statement that he does oppose the use of live animals for testing products that are purely cosmetic.

## Swiss Reject Proposal to Limit Animal Research

Swiss voters have rejected an animal welfare proposal to sharply restrict animal experiments.

A national referendum showed 57% of those voting opposed limiting animal experimentation only to those deemed essential to medical research. The referendum attracted only 44 percent of the nation's eligible voters.

Under Switzerland's system of direct democracy, 100,000 signatures in support of an initiative are enough to force a national referendum. Supporters of the initiative appealed to voters on ethical grounds, arguing that much existing research could be carried out without animals.

The government, drug industry, and medical charities urged voters to reject the proposal. The government

and drug companies said animal rights groups would seek to block individual experiments with lengthy courts cases that would delay new research for years.

The referendum was the third on this issue in the last 13 years. A more extreme proposal calling for the abolition of vivisection already has gained the necessary 100,000 signature to force yet another national vote.

Existing Swiss standards for using laboratory animals are among the highest in the world. Tight restrictions have cut the number of animal tests in half since a peak of 1 million in 1983. There have been no animal tests on tobacco products for six years and experiment on cosmetics are strictly limited.



## Northwest Airlines Resumes Shipments of Research Animals

Northwest Airlines has resumed shipment of live animals for biomedical research after pressure from an animal rights group had caused the airline to suspend such operations.

In a letter to Virginia Miller, chair of the APS Animal Care and Experimentation Committee, David Behrends, a Northwest Airlines vice president, said, "After a review of our policy in this area, during which we spoke at length with thoughtful proponents on all sides of the debate, reviewed literature provided by a number of interested parties, and extensively discussed the issue with our senior management groups, Northwest Airlines has decided to resume shipment of live animals for medical research."

The APS committee had written a letter to Northwest Airline protesting its action when the shipment of live animals was halted in November.

Defenders of Animal Rights, a Detroit area group, pressured Northwest Airline to halt the shipment of dogs from a Michigan breeder to Swiss laboratories. The airline has a contract to ship six shipments of 28 beagles each from Detroit to Paris.



**Vernon S. Bishop**, professor, Department of Pharmacology, has been named chairman of the Department of Physiology, University of Texas Health Science Center, San Antonio. Bishop was elected to membership in 1968, has been editor of *AJP: Heart and Circulatory Physiology* since 1987, and was President of the Society in 1989-1990.

**R. Allan Buchholz** has accepted a position in Cardiovascular Metabolic Diseases, Pfizer Central Research, Groton, CT. A member since 1959, Buchholz was formerly at Sterling-Winthrop Research Institute, Rensselaer, NY.

Formerly at the Tokyo Medical and Dental University, corresponding member **Hiroshi Hayashi** has accept-

ed a position at the Department of Internal Medicine, Yokohama Red Cross Hospital, Yokohama, Japan.

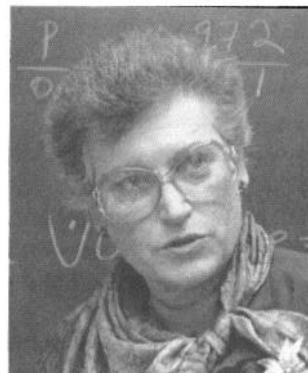
APS member **John R. Clarke**, research physiologist, National Naval Medical Center, Bethesda, MD, has joined the Naval Experimental Diving Unit in Panama City, FL.

Formerly at the Good Samaritan Hospital in Baltimore, **G. Kenneth Adams III** has accepted a position with Shering-Plough Research, Bloomfield, NJ.



**Shu Chien**, professor of bioengineering and medicine, has been appointed director of The Institute for Biomedical Engineering at the University of California, San Diego. A member since 1967, Chien was President of the Society in 1990-1991.

Corresponding member **Clive Rosendorff** of Johannesburg, South Africa, has become professor of medicine at the Mount Sinai Medical Center and chief of medical service at the VA Medical Center, Bronx, NY.



**Barbara A. Horwitz**, professor of physiology, was selected chairman of the Department of Animal Physiology, University of California, Davis. Horwitz, who became a member in 1969, has served on many APS committees and is presently a member of the Society's Education Committee.

APS member **Bob Phillips** is now NASA Chief Scientist of the Space Station Freedom.

**John C. S. Fray**, formerly at Spelman College, is now at the University of Massachusetts Medical School, Worcester. Fray, an APS Porter Physiology Fellow, has been active in this program and has served on other APS committees.

### Future Meetings

#### 1992

**APS Conference**  
Integrative Biology of Exercise

September 23-26  
Colorado Springs, CO

**APS Conference**  
Cellular and Molecular Biology  
of Membrane Transport

November 4-7  
Orlando, FL

**1993**  
Frontiers in Experimental Biology

March 28-April 1, New Orleans, LA

**APS Conference**  
Physiology and Pharmacology  
of Motor Control

October 3-6  
San Diego, CA

**APS Conference**  
Signal Transduction and  
Gene Regulation

November 17-20  
San Francisco, CA

**1994**  
Frontiers in Experimental Biology

April 24-29, Anaheim, CA

### APS Member New IoM President

Cardiologist **Kenneth Shine** has been named to a five-year term as president of the Institute of Medicine. The IoM is closely affiliated with the National Academy of Sciences.

APS member Shine is dean of the medical school at the University of California, Los Angeles. He has studied ionic exchange in heart muscle tissue and the effect of loss of blood flow into that tissue. Shine received both his undergraduate and medical degrees from Harvard University. He was elected a member of IoM in 1988. ☞

## Funding Strategies for FY 1992

The core principles described below will guide the Institutes/Centers/Divisions (ICDS) in making funding decisions on Research Project Grants (RPGs) in FY 92.

### *Noncompeting RPGs*

The award of noncompeting grants at committed levels is the cornerstone of the National Institutes of Health (NIH) and Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) Financial Management Plan and is the basis for credibility with the Congress and the scientific community.

The total costs of the cohort of non-competing grants, on the average, may not exceed 4% more than the prior budget period, taking into account one-time, nonrecurring costs such as equipment. (ADAMHA noncompeting continuation awards will not come under this policy until FY 93.)

Every effort will be made to accommodate shifts in the fiscal situation. If conditions are such that funding at the committed levels is not possible, the ICDs will obtain the approval of the Director, NIH, or the Administrator, ADAMHA, before taking any action to reduce the size of the non-competing awards.

### *Competing RPGs*

The average costs of competing grants in one fiscal year will not increase by more than the Biomedical Research and Development Price Index over the average costs of competing grants in the previous fiscal year (including Small Business Innovation Research grants).

An appropriate funding level for each award may be achieved by making budgetary reductions based on recommendations of the initial review group and advisory council/board, reviews by program and grants management staff for cost allowability and reasonableness, and, if necessary, programmatic adjustments. Programmatic adjustments may include reductions in investigator effort, adjustments of specific budget items, and/or decreases in the number of specific aims.

Award reductions of 25% or more below the level recommended by the initial review group on a single grant application may require a revised statement of specific aims and a revised budget from the principal investigator, properly countersigned by the institution, which must be reviewed and approved by the ICD program and grants management staff. Program staff, in consultation with the principal investigator and grants management staff, will decide if revised specific aims are required.

For competing continuation grants, one factor in arriving at the award amount will be the level of support in prior years and the extent to which the ISC can permit growth within the existing constraints on increases in average costs.

The average length of research project grants will not exceed four years (excluding Small Business Innovation Research grants).

### *Indirect Costs*

The NIH and ADAMHA Financial Management plans propose that the effective indirect cost for competing and non-competing awards would become the ceiling rate for the remainder of the recommended period of support. Implementation of the ceiling on the rate of indirect costs is being deferred. However, the Department of Health and Human Services and the Office of Management and Budget currently are considering this and other options for government-wide policies with respect to indirect costs.

## Revised PHS 398 Application Form Available Soon

The newly revised Public Health Service grant application form—Standard Form PHS 398—are available for shipping to applicants and applicant organizations early in March 1992. This revision, dated 9/91 and approved through 6/30/94, replaces the current version that was revised 10/88 and approved through 3/31/91. Applicants are to use the new form starting with the May 1, 1992 receipt date for AIDS applications; the May 10, 1992 receipt date for NRSA Institutional Training Grant applications; the June 1, 1992 receipt date for unsolicited research grant and Research Career Development Award (RCDA) applications; and the June 19, 1992 receipt date for the Academic Research Enhancement Award applications. Responses to requests for applications with receipt dates after May 1, 1992 are to use the new form.

The revised PHS 298 form contains many significant changes and additions. Some of the more important changes are a modest increase in the page limitations for the research plan and the introduction to revised applications; restrictions on appendix materials; an introductory section that describes the peer review process and in-

## BOOKS RECEIVED

*Aspects of Synaptic Transmission: LTP Galanin Opioids Autonomic 5-HT.* T. W. Stone (Editor). New York: Taylor & Francis, 1991, 404 pp., illus., index, \$90.00.

*Endothelin.* Gabor M. Rubanyi (Editor). *Clinical Physiology Series*. New York: Oxford University Press: American Physiological Society, 1992, 277 pp., illus., index, \$70.00.

*Excitatory Amino Acids and Synaptic Transmission.* Howard Wheal and Alex Thomson (Editors). New York: Harcourt Brace Jovanovich, 1991, 482 pp., illus., index, \$129.00.

*The Biological Bases of Drug Tolerance and Dependence.* Judith Pratt (Editor). *Neuroscience Perspectives*. Peter Jenner (Series Editor). New York: Harcourt Brace Jovanovich, 1991, 301 pp., illus.,

index, \$40.00.

*Sodium Hunger: The Search for a Salty Taste.* Jay Schulkin. New York: Cambridge University Press, 1991, 192 pp., illus., index, \$54.95.

*Myocardial Protection: The Pathophysiology of Reperfusion and Reperfusion Injury.* Derek M. Yellon and Robert B. Jennings (Editors). New York: Raven, 1992, 224 pp., illus., index, \$99.00.

*Subcortical Functions in Language and Memory.* Bruce Crosson. New York: Guilford, 1992, 374 pp., illus., index, \$40.00.

*Signaling Mechanisms in Secretory and Immune Cells.* J. R. Martinez, B. S. Edwards, and J. C. Seagrave (Editors). San Francisco, CA: San Francisco Press, 1990, 133 pp., illus., index, \$15.00.



cludes contact telephone numbers for the awarding components of the PHS; the requirement to list all of the personnel, not just the key personnel, on the abstract page; a detailed discussion of the various assurance and certification requirements; and an explanation of the required documentation regarding gender and minority representation in study populations.

To request two or more copies of the PHS 398 (revised 9/91), contact the Administrative Service Office (PHS 398), Division of Research Grants, National Institutes of Health, Westwood Building, Room 436, Bethesda, MD 20892. To request a single copy of the PHS 298 (revised 9/91) contact the Office of Grants Inquiries (PHS 398), Division of Research Grants, National Institutes of Health, Westwood Building, Room 449, Bethesda, MD 20892. To assist delivery, please include a completed mailing label for each box of 50 applications.

### BRSG Becomes Competitive Grant

The NIH National Center for Research Resources announced in the Feb. 7 *NIH Guide to Grants and Contracts* that the Biomedical Research Support Grant (BRSRG) is being changed from a formula grant mechanism to a grant awarded on a competitive basis. In FY 1992, 104 awards of \$50,000 each will be made among some 628 eligible institutions. All applications must be received by June 15, 1992.

Revisions to the program were developed in large measure to cope with drastically declining appropriations. Funded at \$59.8 million only five years ago, the program was appropriated less than one-tenth of that amount—\$5.2 million—for FY 1992. Awards for many institutions have dwindled to a point where their utility has been enormously eroded. NIH staff hope that the impact of the program will be maximized by making fewer, yet larger, awards to the most deserving institutions.

For FY 1992, the 628 eligible institutions will be segregated into tiers according to the size of their research base. One-third of the 104 awards will be designated for institutions in each tier. Thus the "large" research institutions will complete for approximately 35 awards, and the same will be true for institutions with "mid-sized" and "small" research programs.

NIH staff will review applications and

take into consideration such criteria as 1) the quality of local peer review mechanisms; 2) the potential of the award to maximize the benefits, cost-effectiveness, and productivity of research project grants; 3) prior achievements with BRSRG funds; and 4) the "level of institutional commitment" as exhibited by matching contributions toward uses of BRSRG funds.

Appropriate use of BRSRG funds will be restricted to 1) pilot research, 2) initial support for new investigators, and 3) interim support of other NIH-supported projects during funding lapses.

### FASEB NEWS

#### LSRO Reports on Nutrient:Disease Relationships Available

The Life Sciences Research Office (LSRO) has completed a series of 12 monographic reports that evaluate publicly available evidence regarding certain nutrient:disease relationships. The reports, authored and reviewed by knowledgeable investigators who are members of the several constituent societies of FASEB, contain extensive tables that assess the scientific studies reviewed in the report.

Each of the 10 topics of the LSRO reports are those identified as nutrient:disease relationships that may have health claims on food labels. The reports are available singly (\$18.00 each) or as a complete set (\$180.00), prepaid, from the FASEB Special Publications Office, 9650 Rockville Pike, Bethesda, MD 20814. (Maryland residents, please add 5% sales tax. Outside USA/Canada, please add \$4.00 per report for air freight; otherwise delivery will be by sea/surface mail.)

#### Nominations Invited for Wellcome Visiting Professorships

The Federation of American Societies for Experimental Biology invites nominations for the 16th series of Wellcome Visiting Professorships in the Basic

Medical Sciences, sponsored by the Burroughs Wellcome Fund. Administered by the Federation, the professorships are offered annually to medical schools, universities, and other scientific research institutions within the United States.

The purpose of the Visiting Professorships is to stimulate interest in the basic sciences and enhance communication with scientists in physiology, biochemistry/molecular biology, pharmacology, pathology, nutrition, immunology, and cell biology. Selected US institutions will receive distinguished scientists from within the United States or abroad whose interests relate to the above disciplines. Twenty-one awards will be made annually. Each scientist will serve as a Wellcome Visiting Professor and spend two to five days at the institution, engaged in teaching and discussion with students and faculty. During the visit, each visiting professor will deliver a Wellcome lecture on a subject pertinent to his/her discipline. An announcement of the Wellcome lecture in the basic medical sciences will be prepared and publicized in advanced by the institution.

Address letters of application of inquiries to The Wellcome Visiting Professorship Program, Executive Office, FASEB, 9650 Rockville Pike, Bethesda, MD 20814. Tel: 301-530-7092. The deadline for receipt of applications is May 1, 1992.

#### Nominations Welcome for 3M Life Sciences Award

The Federation of American Societies for Experimental Biology is pleased to solicit nominations for the 18th annual 3M Life Sciences Award, administered by the Federation. The award, sponsored and supported by 3M, provides a sum of \$25,000 to the awardee.

The nominee must have contributed to the welfare of mankind by conducting research in the broad area of the life sciences that has led to a significant increase in scientific knowledge. The criterion will be excellence.

The deadline for receipt of nominations and supporting letters is October 15, 1992. Send nominations to Leah C. Valadez, 3M Life Sciences Award Committee, FASEB, 9650 Rockville Pike, Bethesda, MD 20814. Tel: 301-530-7092.

## Conference on Environmental Ergonomics

The Fifth International Conference on Environmental Ergonomics will take place in Maastricht, The Netherlands, on November 2-6, 1992. The ICEE provides a biennial forum for exchange of information among scientists and engineers from varied disciplines with interest in the problems of human work under adverse environmental conditions. Sessions will include invited presentations and submitted papers in slide and poster formats. Submissions in the form of two-page minipapers must be received by April 15, 1992. Papers should be sent to the conference organizers: George Havenith and Wouter Lotens, P.O. Box 23, 3769 ZG Soesterberg, The Netherlands. Fax: +31-3463-53977. US telephone queries may be directed to Dr. Sarah Nunneley, 512-536-3814.

### Positions Available

There is a \$25 charge per issue for each position listed. A check or money order payable to the American Physiological Society must accompany the copy. Purchase orders will not be accepted unless accompanied by payment. Ads not prepaid will not be printed. Copy must be typed double spaced and is limited to 150 words. All copy is subject to the editorial policy of *The Physiologist*. EOAAE indicates Equal Opportunity/Affirmative Action Employer and appears only when given on original copy. Copy deadline: copy must reach the APS office before the 15th of the month, 2 months preceding the month of issue (e.g., before February 15th for the April issue). Mail copy to APS, 9650 Rockville Pike, Bethesda, MD 20814.

**Assistant Professor**—The Department of Internal Medicine at the University of Missouri—Columbia is recruiting for a PhD at the assistant professor level for the division of Pulmonary Critical Care and Environmental Medicine. Successful candidate will be responsible for directing the pulmonary lab, co-directing clinical investigations in disrupted airway physiology, and teaching respiratory physiology at undergraduate and graduate levels. Must have PhD in physiology. Must have knowledge of airway mechanics, mechanical ventilation, computer applications in data acquisition and manipulation. Must be registered respiratory therapist by the NBRC. Send CV and references to James Hinson, MD, Interim Director, Division of Pulmonary and Environmental Medicine, University of Missouri—Columbia, One Hospital Drive, Columbia, MO 65212. [EOAAE]

## Artois-Baillet Latour Health Prize

The biennial Artois-Baillet Latour Health Prize will be awarded in the spring of 1993 for "an important contribution to the solution of physiopathological and therapeutic problems in the field of organ transplantation."

Candidatures should be sent to the secretary general of the FNRS—National Fund for Scientific Research, rue d'Egmont 5, B-1050 Brussels (Belgium) by July 1, 1992.

The FASEB Meeting Becomes . . .

# Experimental Biology '93

*Providing a Unified Approach to Life Sciences Research*

## Scientific Meetings and Congresses

**Sixth Annual Human Anatomy and Physiology Conference**, San Diego, CA, June 6-11, 1992. *Information:* Shirley Mulcahy, 1992 Conference Coordinator, 7250 Mesa College Drive, San Diego, CA 92111-4998. Tel: 619-627-2787.

**Pharmacology '92**, Orlando, FL, August 15-18, 1992. *Information:* ASPET (American Society for Pharmacology and Experimental Therapeutics), 9650 Rockville Pike, Bethesda, MD 20814.

**Actin '92**, Troy, NY, August 5-9, 1992. *Information:* James E. Estes, Research Service (151-B), VA Medical Center, Albany, NY 12208. Tel: 518-462-3311, ext. 2213; Fax: 518-472-7019.

**XXIII Congress of the International Society of Psychoneuroendocrinology (ISPNE)**, Madison, WI, August 16-20, 1992. *Information:* ISPNE XXIII Congress, Department of Psychiatry, University of Wisconsin, B6/210 Clinical Science Center, 600 Highland Avenue, Madison, WI 53792. Fax: 608-265-2565.

**Microelectrode Techniques for Cell Physiology**, Plymouth, United Kingdom,

September 9-23, 1992. *Information:* D. Ogden, National Institute for Medical Research, The Ridgeway, London NW7 1AA, United Kingdom.

**Fifth International Conference on Environmental Ergonomics**, Maastricht, The Netherlands, November 2-6, 1992. *Information:* Georger Havenith, P.O. Box 23, 3769 ZG Soesterberg, The Netherlands. Fax: +31-3463-53977. USA, call Sarah Nunneley. Tel: 512-536-3814.

**The Role of Insulin-Like Growth Factors in the Nervous System**, Arlington, VA, November 4-7, 1992. *Information:* Conference Department, New York Academy of Sciences, 2 East 63rd Street, New York, NY 10021. Tel: 212-838-0230; Fax: 212-888-2894.

**Ninth International Symposium on Brain Edema**, Tokyo, Japan, May 16-19, 1993. *Information:* Umeo Ito, Department of Neurosurgery, Musashino Red-Cross Hospital, 1-28-1, Kyonan-cho, Musashino-shi, Tokyo 180, Japan. Tel: Japan (81)-0422-32-3111; Fax: Japan (81)-422-32-3525.

## APS Sustaining Associate Members



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

Abbott Laboratories  
Alliance Pharmaceutical Corporation  
American Medical Association  
Axon Instruments, Inc.  
Berlex Laboratories  
\*Boehringer Ingelheim  
Burroughs Wellcome Company  
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Dagan Corporation  
du Pont Pharmaceuticals  
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Genentech, Inc.  
Glaxo, Inc.  
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Grass Foundation  
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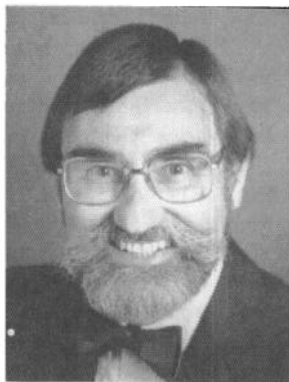
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## APS Election Results

**William H. Dantzler**, Professor and Head, Department of Physiology, University of Arizona College of Medicine, Tucson, is the new President-Elect. The two newly elected Councillors taking office on April 9, 1992, for three-year terms are **Mordecai P. Blaustein**, Professor and Chairman, Department of Physiology, University of Maryland School of Medicine, Baltimore, and **James A. Schafer**, Professor, Department of Physiology and Biophysics, University of Alabama, Birmingham.



William H. Dantzler

### President-Elect

"The APS must make every effort 1) to attract the very brightest young people, including those from all underrepresented groups, to physiology; 2) to enhance and promote its already excellent programs (publications, lectures, symposia, workshops, etc.) to convey to these young people, as well as to established scientists of other disciplines and the public at large, the excitement of a field in which new techniques are permitting extraordinary advances in understanding biological function and its regulation and integration at the molecular, membrane, cell, organ, and organismic levels; 3) to convince the public of the critical need for additional and more secure national funding for biomedical research and education and of the legitimate requirement for the use of animals in biomedical research; and 4) to streamline its governance to give full voice to young members and those representing the new and emerging facets of the discipline."

### Councillors



Mordecai F. Blaustein



James A. Schafer