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Introduction

In 2010, the American Physiological Society (APS) set out to develop a comprehensive strategic plan to identify specific opportunities the Society should pursue over the next five years. The Society convened a strategic planning meeting, held January 24-25, 2011, with representation from Council, Section Advisory Committee, Trainee Advisory Committee, and APS staff. To facilitate this meeting and, more broadly, the development of the strategic plan, APS engaged the strategy consulting firm AltshulerGrav.

In preparation for the meeting, a comprehensive set of background materials was compiled, covering all of the major components of APS's operations. In addition, the consultants conducted and analyzed a survey of the Society's membership (see page 121). This analysis was combined with a closer look at the financial state of the organization, membership demographics, and trends to provide a comprehensive view of the current state of the Society. This was presented at the start of the strategic planning meeting to inform the group's subsequent discussions (http:// www.the-aps.org/about/ 2010SurveyAnalysis.pdf).

This document summarizes the output from that meeting and reflects the strategic priority areas and potential initiatives identified by attendees. Additional discussions will be undertaken by the Council, committees and task forces to determine which of the many ideas discussed at the meeting are worthy of further exploration. how best to develop and flesh out these preliminary ideas, and to identify additional ideas for development. For proposed new initiatives deemed to merit further consideration, additional work will be required to evaluate the potential impact and feasibility of pursuing them, and to delineate the specific tactics that should be employed. As well, it may be necessary to reprioritize existing activity in light of these new opportunities. This work will position APS to identify and implement the top priorities for the Society as defined by the strategic plan.

Current state of the APS

The state of the APS is strong. The Society currently has strong financial reserves and has largely been able to recover from the investment losses incurred during the recent economic downturn. The Society continues to generate a steady revenue stream, driven largely by its portfolio of journals, which covers its annual operating costs. APS also benefits from an active and increasingly diverse membership, with female and international members each representing approximately 25% of the total and minority members accounting for over one fifth. Satisfaction among all members is high, with nearly 90% of those surveyed indicating they are likely to renew their membership. Members give APS publications and meetings particular praise, citing both their importance and high quality. In addi-

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High School Students and

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Headquarters phone: 301-634-7118 Fax: 301-634-7241 Email: info@the-aps.org http://www.the-aps.org Printed in the USA It seems like only yesterday that I order to became the Society's Executive nature Secretary-Treasurer, participating in extended the celebration of our Centennial in membe 1987 in Washington, DC. The focus of the meeting was the role played by the United Kingdom, Germany, and interna France in the development of physiology in America. Sir Bernard Katz

ogy in America. Sir Bernard Katz (UK), Irene Schulz (West Germany), and Pierre Dejours (France) were the keynote speakers, speaking in recognition of the Society's founders, all of whom were trained in physiology in Europe.

"After the opening session, attendees gathered for a festive wine and cheese reception that provided scientists, young and old, an opportunity to reflect on the past and look to physiology's future. The foreign guests invited by the Society to participate in the week's festivities mingled freely with the attendees, providing many with a unique opportunity to meet and talk with leading physiologists from abroad." (1)

Well, I am still here, but with the title of Executive Director, as we prepare to celebrate the Society's 125th Anniversary during Experimental Biology 2012 scheduled for April 21-25 in San Diego, CA. One lesson we learned from the Centennial Celebration is that very few people collect medallions that are distributed or sold in association with scientific meetings. As a consequence, there will be no 125th anniversary medal for meeting attendees to take home with them (assuming you even wanted to purchase one).

Our plan for the 125th Anniversary meeting is to use the celebration as an opportunity to reflect on the historical role that the Society has played globally for our discipline. Just as our founding members were trained in the laboratories of Europe, many of today's international physiology leaders were trained in the laboratories of the United States thanks to the generous support of US funding agencies. In order to celebrate the international nature of our science, the Society has extended invitations to the 53 IUPS member societies to participate in the meeting. In so doing, we intend to make this meeting a truly outstanding international event by providing the best forum possible for the exchange of knowledge in the physiological sciences among colleagues from all over the world. The goal is to make the 125th Anniversary celebration an opportunity for physiologists to converge in a single place and define the important role of this discipline in the complex realm of science. Importantly, the meeting will also provide a unique opportunity for physiologists from around the world to view the most recent research advances and meet some of the scientific leaders in our discipline.

Get Ready to Party in San Diego!

In order to help make the 125th Anniversary meeting a truly international celebration, the Society has also launched a fund raising effort to raise \$200,000 or more to provide travel assistance to emerging physiologists from throughout the world. The goal is to greatly increase the funds available to bring young scientists to our annual celebration of physiological research.

The Society is also planning several special events in conjunction with the 125th Anniversary meeting. On Saturday, April 21, following the welcome and Walter B. Cannon Lecture to be presented by L. Gabriel Navar of Tulane Univ., the Society will hold a Beach Party on the North Embarcadero. The event will include food, drink, music, and games, all designed to make the start of the meeting an enjoyable opportunity to mingle with colleagues from around the world. The event will have a modest cost of \$15 per person, which will assure us that the opening reception for the 125th Anniversary is not a repeat of the Centennial Celebration where the Society over ordered and wine flowed liberally because the servers opened all the bottles expecting a larger crowd.

Because we have a full day of meetings on Wednesday including a Nobel Prize Laureate speaker at the end of the meeting, the Society will also have a special closing event as a culmination of the celebration of 125 years of physiological discovery. The closing dinner will be held at the San Diego Marriott Marquis Hotel and will include food, drink, and music. This event will also have a modest cost of \$15 per person so we can anticipate how many will attend the event. It will be an opportunity to recognize the contributions of many to the success of the Society, especially to all the Presidents who are able to attend the meeting in San Diego.

Throughout the week, the Society will be offering outstanding sessions designed to advance our discipline and to contribute to our understanding of the function of the living organism. The theme of the Physiology InFocus program organized by APS President Joey Granger will be "Physiology in Medicine," highlighting the role physiology plays in the understanding of disease processes and the development of treatments and cures for disease. In addition, many of the sessions will include brief historical snippets designed to highlight the history of the discipline and the role early discoveries have played in current physiological understanding.

The 2012 celebration of the Society's 125th Anniversary will be a special event, but only if each of you joins us in San Diego. So plan on attending the meeting, bring your best science, and be prepared to party like it was 1887, or how about 2012. \clubsuit

Reference

1. Centennial Celebration, *The Physiologist* 30(4): 66, 1987

Martin Frank APS Executive Director

(continued from page 113)

tion, a majority of members value APS's role in fostering a community of scientific colleagues and providing upto-date news on research and trends in physiology. APS staff also receive high praise from both members and elected leadership.

In order to perpetuate this success and build upon the Society's many strengths, the APS recognizes it must continue to address both internal and external challenges that will confront the Society in the coming years. One challenge is the fact that while APS has enjoyed steady membership numbers over the last decade (~10,000-11,000 members), member turnover has reached 10% per year. The Society has also witnessed some attrition among graduate student members without subsequent growth in regular membership, thus, leading to a slow aging of the Society. Financially, the trend toward open access journals with minimal peer review coupled with declining institutional library budgets may challenge the Society's publication portfolio, an asset that today accounts for nearly 80% of total revenue. To address these developments, APS must continue its current efforts to reposition its subscription model (e.g., actively shifting from print to online-only subscriptions and developing open access fee models). To ensure the success of its meetings in spite of scientists' reduced travel budgets, the Society must continue to innovate in the area of scientific meetings, developing more opportunities for presenting and interacting at EB and responding to members' expressed desire for smaller meetings focused on cuttingedge topics.

The APS also recognizes a number of external challenges confronting both the Society and the discipline of physiology more broadly. There is a perception within academia that physiology is losing its place as a distinct discipline as universities and medical schools subsume it within other departments or marginalize it in favor of new "hot topic" areas (e.g., systems biology). More broadly, physiologists are affected by the poor economic climate and uncertain future for public research funding. Compounding these issues are the efforts by animal rights activists to influence public perceptions of research involving animals.

The Society is eager to address these challenges, to fulfill its mission to promote the science of physiology, and to continue to foster the unified, engaged community of physiologists that have been the foundation of the Society's success to date. By building on its current efforts and preparing for the changing landscape for both scientific societies and physiology more broadly, APS will be well-equipped to remain ahead of these trends and continue to be the authoritative voice for the physiological community.

APS Mission Statement

At the start of the strategic planning meeting, attendees reviewed APS's current mission statement and concluded that, while concise and descriptive, it does not clearly articulate why the Society exists nor whom it serves. To address these shortcomings, the group brainstormed a list of key concepts and ideas to be included in the Society's mission.

The revised mission statement based on meeting input is as follows:

The APS mission is to promote the discipline of physiology and thereby enhance human and animal health by disseminating research discoveries, facilitating research and scientific interaction, educating the public and enabling future generations of physiologists.

Strategic priorities and potential initiatives

In order to ground the group's discussion of strategic priorities in a datadriven fact base, AltshulerGray presented the outputs of its current-state analysis including: an overview of the external context in which APS operates; an examination of APS's membership informed by the membership database and member survey; and an analysis of APS performance, both financially and organizationally (http:// w w w. the - aps.org/about/2010 SurveyAnalysis.pdf).)

Informed by this background research, attendees brainstormed a list of potential ideas for addressing opportunities and challenges, in the form of "wishes," to identify priority focus areas for the Society. The group then prioritized this list and 12 topics were identified for further exploration at the meeting. Groups of seven to eight attendees were assigned to explore

APS Strategic Planning Meeting Attendees

Linda Allen Jill Altshuler Amy Arnold Ken Baldwin Kim Barrett Melissa Bates David Brooks John Buckwalter Pam Carmines John Chatham Mark Chapleau Eric Delpire Linda Dresser Martin Frank William Galey David Goldstein Joey Granger J.R. Haywood Bryan Helwig Robert Hester Donna Krupa Ida Llewellyn-Smith Ronald Lynch Marsha Matyas Marilyn Merker

Scott Powers Thomas Pressley **Robert Price** Alice Ra'anan Hershel Raff Usha Raj Jane Reckelhoff James Rose Sue Sabur Linda Samuelson Jeff Sands Jenny Sasser Rita Scheman Ann Schreihofer Gary Sieck Curt Sigmund **Grant Simmons** Chris Streeter Alan Sved Jerrold Turner Peter D. Wagner Erica Wehrwein William Welch

Gordon Mitchell

Frank Powell

each topic in more depth in a series of two breakout sessions. Based on the work of these groups, five key strategic priority areas emerged:

• increase efforts to ensure awareness of, and advocacy for, the discipline of Physiology;

• actively work to attract, meet the needs of, engage and retain membership subgroups;

• develop strategies to strengthen the Society's publications in a changing world;

• enhance opportunities for scientific interaction and exchange; and

• increase the visibility of physiology in life sciences and health sciences education.

Attendees also identified two themes that cut across all five strategic priority areas. These were:

• physiology as critical in translational research; and

• chapters as an underutilized resource for the strategic directions.

Below we summarize this set of strategic priorities and some of the potential initiatives proposed to address them.

Increase efforts to ensure awareness of, and advocacy for, the discipline of Physiology

Throughout the strategic planning discussions, participants expressed concern that the public does not understand or appreciate the value of the field of physiology, and that some biomedical scientists view the field as a discipline in decline. This is not a new concern; it was highlighted in the last strategic plan and has been much discussed in other venues. The current national emphasis on translational medicine provides a major opportunity for physiologists to make a case for the discipline as a critical bridge from basic discoveries to practical application for human health. This will require dialogue with policy-makers and a redoubling of efforts to increase public awareness of physiology.

By increasing efforts to better educate the public about the critical role physiology plays in scientific discovery, with its subsequent impact on human and animal health, the APS will help to ensure continued public support for physiological research. To address these priorities, attendees felt APS should engage on two fronts: redoubling efforts to build an increased public awareness of physiology and mobilizing members to advocate for the discipline both nationally and locally.

Redouble efforts to build increased public awareness: To raise public awareness for physiology, attendees recommended the Society develop a targeted and coordinated media campaign, with potentially new and novel outreach opportunities. A number of such potential ideas were generated via brainstorming; these would need to be evaluated for cost, feasibility, and likely impact. Among these ideas were opportunities for the APS to have a physical presence at both national and community events and venues. For example, the APS could sponsor an informational booth at local zoos or museums to highlight the role physiology plays in scientific discovery. To support these efforts, APS could create public educational materials including informational pamphlets, podcasts, and the like. Additionally, the APS might consider opportunities to leverage its portfolio of journals to publish papers of public interest, building on efforts such as that undertaken in the Journal of Applied Physiology in 2008 to create content relevant to the Olympics. The Society could also seek the support of celebrity spokespeople (e.g., professional athletes) to help publicize its mes-Much greater consideration sage. needs to go into whether these, or other ideas, are likely to achieve the APS's goals for public awareness.

Finally, attendees suggested the APS consider convening one or more public opinion focus groups to gain a better understanding of the public's perception of physiology and the humane use of animals in research. This effort would allow the Society to craft a more targeted and effective message.

While the increasing attention to translational medicine presents an opportunity for the field, budgetary problems and the increasingly vocal animal rights movement presents ongoing risks. The animal rights movement has become increasingly adept at casting aspersions on research involving animals to buttress its efforts to place legislative and regulatory restrictions on such research. At the same time, public funding for physiological research is increasingly threatened by the current budget crisis that affects not only the Federal government but also state programs of support for research. Animal research and funding support received considerable attention in previous strategic plans, and attendees believe that these challenges remained core strategic issues for the APS.

Mobilize members to advocate for the discipline of physiology: Attendees recommended that the Society enhance its efforts to mobilize its members to become advocates at both the national and local level on behalf of research funding as well as laws and regulations that support scientific discovery. The Society can develop materials to help its members in this pursuit, including talking points, research success stories, etc. Attendees suggested Society chapters be leveraged as focal points for this effort, spearheading the recruitment of member-advocates and encouraging them to interact with their representatives both on Capitol Hill and at home. The APS should continue to identify opportunities to populate NIH study sections and other decision-making bodies with members to increase physiology's representation in these groups.

Actively work to attract, meet the needs of, engage, and retain membership subgroups

The strategic planning discussions highlighted four key constituencies that merit particular attention in terms of membership strategy: trainees, women and minorities, international members, and clinician scientists. In the case of women, minority, and international members, APS has seen commendable growth in recent years, but it was felt that more needed to be done to meet their particular needs and to engage them more in APS activities and leadership. For trainees and clinicians, the challenges are both to make the case for the value of joining the APS, as well as to find ways to actively engage them in Society activities. By focusing on all four of these groups, the APS will continue to broad-

en its reach at all career stages, both nationally and internationally, and will be able to attract the full spectrum of researchers doing work critical to physiological discovery.

Trainees: Trainees represent not only the future of the Society, but they are also the key to physiology's continued success in the years to come. To attract and better meet the needs of this critical subgroup, attendees recommended targeting trainees at all levels, from undergraduates to early stage investigators. At the undergraduate level, APS could develop resources to attract undergrads to the field of physiology and work with educators to distribute these materials to their students, an effort that could tie into the curricula development proposal described below. To encourage trainees at all levels to become APS members, the Society could streamline the membership process, removing the requirement for sponsorship and making the process a simple, one-click procedure. Additionally, new membership categories could be created to attract trainees at more senior levels.

To better meet the needs of trainees, APS could leverage its meetings to provide more opportunities for trainees to interact with the Society. This could include a trainee-only topic session at EB and more trainee involvement in featured topic sessions overall, opportunities for trainees to co-chair symposia, and the development of trainee presentation platforms at chapter meetings and conferences. The Society could also support trainee career development by creating additional online courses and materials for professional skills training (e.g., a short workshop on peer review). Finally, attendees suggested the Society encourage the active participation of trainees at all levels, including reserved space for trainee editorials in the journals, opportunities for trainees to serve on APS committees, and a concerted effort to leverage sections and chapters to disseminate trainee-specific information created by the Trainee Advisory Committee and the Society more broadly.

Women and minorities: Though APS

already enjoys a diverse membership, attendees felt still more could be done to attract women and minorities and encourage them to play more active roles in the Society. APS could actively recruit women and minority members by targeting organizations and institutions where these groups are concentrated (e.g. HBCUs, Hispanic-serving institutions, the Association of Women in Science). Current members could also be encouraged to actively seek out female and minority colleagues and urge them to join. Attendees also suggested the Society promote the participation of women and minority members in leadership roles (e.g., by establishing a mentoring group to help guide members to leadership positions). These efforts would be monitored by Council with the preparation of a yearly report on the number of women and minorities on Council, on committees, on journal editorial boards, in section leadership, etc.

Additionally, attendees recommended providing resources targeted specifically to the unique needs of women and minority members. At meetings, these could include the availability of childcare and sessions on issues such as work-life balance, trailing spouses, and reentering academia after family leave. The Society could also work to create mentoring opportunities for women and minority scientists (e.g., mentoring awards). Finally, attendees suggested making the Women in Physiology committee the central hub for all resources related to both women and minorities.

International members: International membership in APS is growing and international members now represent nearly 25% of the Society. In addition, about 50% of APS journal papers are authored by international scientists, not all of whom are members of the Society. In order to continue to attract this group, attendees suggested the Society streamline the membership process (as discussed with trainees, above) by removing the need for sponsorship and creating a simple, one-click membership process. APS could also explore additional opportunities to engage with foreign societies and possibly create joint membership agreements. To better meet the needs of this group, attendees proposed offering specialized workshops at EB on issues of particular interest to international scientists while also encouraging international members to participate in symposia. The Society could also develop new media resources (e.g., live streaming and webinars) so APS meeting content could reach international members who are unable to attend in person. Additionally, the Society could develop workshop content to present at international meetings, increasing the APS's profile abroad. Finally, attendees recommended the Society explore either the creation of international chapters or partnerships with local branches of international societies to create a dedicated avenue for directly disseminating APS materials to international members.

Clinician scientists: A number of the attendees felt the Society should aspire to become "the" society for translational research. In order to pursue this goal while simultaneously enhancing the Society's exposure to clinical physiological research, attendees proposed a concerted effort to increase the representation of clinician-scientists within APS's membership. This effort could build on many of the proposals outlined elsewhere in this document. To recruit clinician scientist members, APS could engage clinician scientists at all levels, particularly focusing on medical trainees by targeting MSTP programs and providing travel grants and mentoring opportunities to this group. Clinician scientists could be invited to speak at EB and could be actively recruited to help plan both the proposed fall translational meeting (see below) and translational conferences. As mentioned below, the Society could also feature translational content in all its journals and encourage clinicianscientists to submit. Attendees felt APS could also engage with clinical societies and organizations (e.g., AFMR, ASCI, ACSM) to explore partnership opportunities. Finally, to give clinician-scientist members a home in the Society, attendees proposed either the creation of a new Physiologist in

the Clinic committee or an active effort to involve clinician scientists in the current Membership Committee.

Develop strategies to strengthen the Society's publications in a changing world

The importance of the Society's publications portfolio cannot be understated. It accounts for the vast majority of APS revenues and is also the main conduit by which the Society disseminates scientific knowledge. Additionally, members cite the journals as both the most important and highest-quality resource the APS provides. Yet, though the journals are well-respected within the physiological community and are supported by a talented staff, their success may be threatened by the growing strength of open access, the erosion of peer review, and the continued reduction of institutional library budgets. To prepare for these changes in the publications landscape, the APS must strengthen its already-rich publications portfolio by increasing the number and quality of journal submissions (and, subsequently, improving impact factors).

Increase number and quality of submissions: Survey feedback suggests that less than half of all members have submitted manuscripts to APS journals. This figure improves only slightly when trainees are excluded. In order to improve these numbers and, thus, attract even more, high-quality submissions, attendees proposed the Society make a concerted effort to target specific groups and create incentives for those who become frequent contributors. Particularly important will be increased submissions from more senior members currently serving as journal reviewers and editors. By submitting their own work to the journals they oversee, this group will set the example for the membership and readership at large. At the same time, the Society should recognize the service of reviewers and editors to the journals both through Society-wide communications (e.g., newsletters) and by offering incentives (e.g., free membership).

Additionally, the APS could leverage its sections, urging the section leadership to encourage members to submit

to their respective publications. The Society could also target its growing international community and make connections with the organizers of international meetings to advertise APS publications as forums to publish meeting content. Finally, attendees suggested the Society make a concerted effort to increase the publication of translational science in all journals, attracting both cutting-edge research and clinician-scientists to its publications. This effort could include the preparation of a virtual translational journal, comprised of relevant articles collected from all APS publications and delivered electronically to members.

To enhance the visibility of APS journals, attendees recommended the Society enhance journal marketing both within and outside the Society. This effort would serve not only to support the above efforts, but would strengthen the Society's scientific branding more broadly. To achieve this, top papers could be recognized at meetings and in newsletters and their full text could be actively distributed to the membership. The Society could also explore opportunities to partner with organizations like the Faculty of 1000 to highlight APS journal content in publications read by the scientific community at large.

Enhance opportunities for scientific interaction and exchange

APS meetings provide critical venues for the dissemination of scientific knowledge and serve as primary forums for building a strong community of physiologists. Members rate the quality and value of meetings highly and the meetings can be a source of profit for the Society. To build on this success and continue to strengthen the value of meetings to members, attendees proposed that APS explore opportunities in three key areas: improving the value of EB, particularly for younger members; offering smaller conferences on more focused topics of interest; and creating a new fall meeting focused on translational research.

Improve the value of Experimental Biology (EB) for younger members: The Experimental Biology meeting has recently been restructured to allow for clustering of sectional programs. For many, the new structure has proven to be advantageous. However, there remains a need to further improve the value of this meeting, particularly for younger members. APS could explore opportunities to further enhance the meeting's format and opportunities for interaction. To address the criticism, particularly from trainees, that member research often gets lost in large poster sessions, attendees suggested the adoption of a poster-symposia format to supplement these larger sessions. These symposia would feature fewer posters, grouped around common themes, with each presenter given a few minutes to orally present the highlights of his work. To further enhance interactions, particularly between trainee and established scientists, APS could sponsor events that bring these groups together, such as student lunches with distinguished lecturers and a designated trainee hospitality room to promote networking amongst trainees and senior scientists. Other opportunities include decreasing the number of symposia (to reduce attendee fatigue) and increasing the number of featured topic sessions organized by section members.

Offer smaller conferences on more focused topics of interest: The member survey highlighted a strong interest among members for smaller, more focused meetings and conferences which offer the potential to become key venues for expanding the Society's audience, attracting new members, and forging strategic partnerships with other organizations to promote interdisciplinary interactions. However, the Society has not yet hit on a successful financial approach to mounting conferences, despite significant effort to do so. More work will clearly be required to address this problem, but one approach attendees felt was potentially promising was to mobilize APS chapters to generate proposals for, plan, and execute these conferences. The Society could provide the needed organizational expertise and resources to aid chapters in this effort (e.g., helping chapters think strategically about ways to combine chapter meetings and confer-

ences). Chapter leaders would also be well-positioned to identify other local organizations and societies as potential partners in the development of these meetings. By forming these strategic alliances, APS would increase its visibility, while also benefiting from costsharing and economies of scale.

The Society could also explore the use of new media to broaden the reach of conferences and increase attendance. This could include live streaming of conferences on platforms that allow interactive participation, distributing conference video on DVD, and creating conference-related podcasts. To test these technologies, APS could use EB as a test bed and, if remote attendance is successful, begin implementing new media solutions at the conference and chapter levels.

Create a fall meeting focused on translational research: The importance of translational research within the scientific community continues to grow, as evidenced by NIH's announcement of a new center (NCATS) devoted to the topic. To capitalize on this trend and build upon the success of the Society's former fall meeting, attendees recommended the creation of an APSbranded fall translational meeting. This meeting could position APS at the forefront of translational research and help the Society promote the critical links between physiology and translational medicine. The new fall meeting would also provide an ideal venue to target clinician-scientists, a group key to APS's membership strategy (see above). To promote the meeting, APS could explore opportunities to partner with NCATS, the national network of CTSAs, and clinical societies. This meeting would also be an opportunity to educate the public by inviting them to presentations highlighting the essential links between physiology and human health. Additionally, these presentations and others could be live-streamed and/or archived for rebroadcast at chapter meetings and conferences. Finally, attendees suggested the Society engage the translational research interest group to further develop these ideas and brainstorm possible topics for a translational meeting.

Increase the exposure to physiology in life sciences and health sciences education

Today, physiology education is threatened at all levels. Physiology is disappearing from many undergraduate curricula and the discipline is losing its identity within medical education as schools subsume physiology departments within others or eliminate them altogether. Attendees recognized APS's critical role in reversing these trends, in training the next generation of physiologists, and in having the discipline recognized for the key role it plays in human and animal health research. In order to accomplish these aims, attendees suggested the Society leverage its already-strong portfolio of educational resources to enhance the presence of physiology at both the undergraduate and professional health sciences levels.

Develop comprehensive undergraduate physiology curricula: To strengthen the presence of physiology at the undergraduate level, attendees proposed APS explore opportunities to develop comprehensive undergraduate physiology curricula which leverage the resources already developed within the education department. These curricula could be tailored to different types of institutions and programs (e.g., different approaches for pre-med programs vs. environmental programs). These curricula and related resources (such as teaching modules) could be placed online and made available free of charge to undergraduate educators. Additionally, the Society could leverage chapters as centers for disseminating these curricula by offering local workshops and courses to undergraduate educators. In turn, these educators would be encouraged to become APS members and become partners in the continued development of educational resources. As a first step in this process, attendees recommended the Society catalogue successful curricula already in place and identify opportunities to build upon them. The APS could also begin a dialogue with undergraduate institutions to build relationships with

educational leaders and create enthusiasm for these new resources.

Mobilize members to advocate for physiology in professional medical education: To reaffirm physiology's place within graduate and post-graduate medical education, attendees felt APS should mobilize its members to advocate for physiology education at two levels. First, members should be encouraged to engage decision-makers at their home institutions, reminding them of the importance of both basic science and physiology in their medical curricula. Members could work with these leaders to identify opportunities to engage physician teachers and explore ways to retain physiology within residency programs (e.g., integrating physiology into all grand rounds). The Society could support these grassroots efforts by developing informative materials for members to use in these conversations.

Second, attendees suggested the APS explore opportunities to get members more involved with policy-making boards (e.g., AAMC, MCAT, USMLE). The Society could identify members to become advocates for physiology within these organizations and could develop materials stressing physiology's critical role in professional medical education. More broadly, APS could explore opportunities to work directly with these organizations in a coordinated way, building on and strengthening existing relationships. \clubsuit

Link to the APS Survey Compendium



APS Membership Survey Analysis

The 2010 APS membership survey was sent to a 10,437 members, and a total of 2,647 members replied; 73% male and 27% female. This is the same gender response rate as the 2005 membership survey. Of the 2,647 respondents, 724 are age 39 or under. Most APS members (71%) work in the United States however, 29% of the Society's members work outside of the US.

Slightly more than half the respondents (58%) indicated that their primary work is research (70% or more of their time), while 20% of the respondents indicated that the majority of their time is spent teaching. Only 4% indicated that the majority of their work is clinical area.

Respondent Demographics Profession

Research Scientist	4%
Associate/Assistant/Professor	70%
Instructor	1%
Undergrad./Grad. Student	8.5%
Postdoc	8%
Other	8%

Primary Institution

Academic Institution	
(college or university)	51%
Academic Institution	
(med. school/professional school)	38%
Industry	2%
Independent Research Institution	3%
Government	3%
Other	3%

Type of Degree

PhD	69%
MD	9%
MD/PhD	13%
DVM	2%
BS/BA	4%
MS/MA/MPH	3%
Other	10%
None	5%

Note: The percentages in the tables in this article are based on the total number of respondents in that particular age category.

Sections

The largest section affiliation of the respondents is the Cardiovascular section (24%), while the Cell & Molecular Physiology Section and Environmental & Exercise Section ranked second with 10% of the respondents. The next three largest sections



Figure 2. Professor by Age and Gender (percent).



Figure 3. Associate Professors by Age and Gender.



are the Central Nervous System Section, the Endocrinology & Metabolism Section, and the Respiration Section. Only 1% of the respondents did not know their section affiliation, or did not respond.

Overall, the APS membership is satisfied with the activities of the sections. Most indicated that they are extremely satisfied with how they receive news regarding their section, and how research is programmed at the EB meetings. However, many respondents indicated that they feel there is a reduced understanding of members' needs by the section leadership.

Services and Products Membership Satisfaction

Overall, the membership is very pleased with APS, with members from all types of institutions and both international and U.S., likely to renew their membership. These are a few samples of membership comments:

• The APS is an amazing resource for me that I will continue.

• APS is important! Worth worrying about!

• You are doing a great job!!!

• Very happy with my APS membership. This is the most excellent scientific non-profit organization. Love the web site and all the science career opportunities created or maintained by APS. (Post doc)

• I think overall that APS is doing a good job. I would just keep doing what you have been doing!

Other Services

The survey respondents cited community and access to up-to-date news as the most valuable features of their APS membership. The least valued features cited were the opportunity to serve on APS committees and mentoring opportunities.

Meetings and Conferences

More than half of the U.S. members (73%) and international member (63%) rated the Experimental Biology meeting highly as an APS meeting. Most, however, ranked the chapter meetings low in terms of importance as an APS meeting. Most respondents like the changes made to the EB meeting, but feel even more can be done to improve it. The APS website and email messages were cited as the most common source of meeting information.





Figure 5. Instructor by Age and Gender (actual numbers).



Figure 6. Postdocs age 20-39 (actual numbers).



Postdocs

Scheduling change seen as a positive step:

• Having section meetings at EB scheduled in two or three day blocks instead of throughout the meeting is a great improvement.

• Improving EB meeting, the new format with extra sessions is a very good first step. Now need to balance the meeting over the entire week.

Meeting still feels too big and expensive for some:

• The annual meeting is spread out too long with too high a cost. Researchers can no longer afford the time and expense. But the APS keeps spreading a topic over the whole conference length.

• I feel that the conferences are getting too big. I appreciate that there is not much you can do about this.

Many of the respondents thought there should be more opportunities at EB for young investigators:

• More opportunities for students to present orally at EB. Students get discouraged when they only present posters and wind up with a Ph.D. having never defended their work on a national platform.

• More interaction opportunities for young investigators at conferences. Limited number of talks allowed and very few people attended the poster sessions- promote more interest for distinguished investigators in attending these sessions.

• Programs that allow young investigators to present their research in more intimate settings that allow a better interaction with their peers and senior colleagues for meaningful feedback from the audience. So, more talks and less poster presentations.

APS Journals

The majority of respondents cited the APS publications as the most important resource offered by APS, with meetings and conferences cited as the second most important resource. This holds true for respondents ranging

Figure 7. Section Affiliation.

Section Affiliation



Figure 8. Section Activities.

Section Activities



from graduate students to established investigators.

Respondents ranked AJP Heart and Circulatory Physiology and Journal of Applied Physiology as the Society's APS mostimportant journals. However, these rankings could be influenced by respondents' areas of interest with CV members being the largest group. Graduate students ranked the Journal of Applied Physiology as the most important APS journal. A majority of the respondents indicated that their institutions subscribe to the APS journals, although 17% did indicate that their institution did not subscribe. or did not know if their institution subscribed.

The majority of respondents indicated that they do access the APS journals online and more than half of the respondents indicated that the print version of the journal was not important. In 2005, 75% of the respondents indicated that APS should continue publishing printed versions of the journals. There is also little interest in accessing the journals on mobile devices. The majority of respondents accessing the journals online do so primarily through PubMed (65%), their institutional libraries (61%), or through the APS website (5%). Accessing the journals online is preferred by both US and international members.

Slightly less than half of all the respondents indicated that they have submitted at least one manuscript to an APS journal. However, more than half of the respondents that self-identified as a professor (all) have submitted at least one manuscript to an APS journal.

When comparing the APS journals against competing journals, the broader-interest journals were ranked higher than the competing journals, as compared to the system-specific journals.

While satisfied with the publications program, many respondents suggested that APS try to improve the impact factor, which some see as tied to review.

Respondents also rated highly the quality of the peer review system and the copy-editing services. The lowest ranked quality for the journals was the impact factor.

Comments reflect desire for higher impact factor

• Improving journals impact factor

• I'd like to see the impact factor of AJP journals higher. It seems too much mediocre work is being published

• Increasing AJP/JAP impact factors

• Journal impact factors need to be greater than 4 to be relevant in Europe and Asia

Some respondents feel improved quality of reviews would help

• Improved reviews by referees, resulting in fewer trivial papers, fewer uninteresting and/or redundant papers

• Improve the quality of journals by choosing better reviewers

• Improve quality of review. Editors should be more active in quality of review.

Education and Careers Program

Overall, the education activities were rated of equal importance, with only developing new teaching resources for undergraduate and graduate physiology being ranked slightly higher than the other programs. Both graduate students and postdocs ranked career resources as the top education/career related activity.

Respondents made the following suggestions regarding undergrad/graduate education:

• We need to support undergraduate physiology teaching more. There is tremendous pressure to reduce animal use in undergraduate teaching labs, and APS is not doing much to help us fight this

• Research grants for undergraduate research projects (outside of what is already offered) via the undergraduate summer research fellowships, which are *excellent*

• Outreach to the community teaching undergraduate physiology (and not just in Physiology Departments) as that is the source of the next generation

• Recognize undergraduate research even more than done already now by the summer fellowships

• More resources to help with undergraduate physiology teaching

• Development of an undergraduate award program for best physiological research project/ poster within a university setting similar to HS science fair winners

• The trend to giving educational support to undergraduate and even High School teachers and students is critical and should be continued and expanded

Science Policy

More than a third of respondents ranked support for training the next generation of scientists as the top science policy priority. The next two highest ranking priorities are addressing





structural changes at funding agencies that may disadvantage physiology as a research priority and promoting the formulation of federal policies and guidelines to minimize regulatory burden. However, about 14% of the respondents ranked monitoring the effectiveness of agency peer review procedures as a top priority.

The overall issue of animal use in research is important to the respondents at all career levels, with 68% indicating that increasing public understanding of the importance of animals in research is a top priority. Educating Congress on legislative proposals affecting research with animals ranked much lower at 14%.

NIH was the largest source of funding for members (41%), while the second largest source was listed as "other." NSF funded only 7% of respondents, while the VA funded only 3% and NASA only 2%.

Communications

Most of the respondents rated the Public understanding of the use of animals in research as the most important communications issue. The next two highest ranked issues were the accurate reporting of physiological research in the public media and public understanding of physiology.

Most of the respondents see less value in "new media services (video, podcasting, social networking)".

Views on APS as a whole

Although many respondents indicated that APS is doing a good job in meeting their professional needs, others offered recommendations on what APS could do better.

Broaden member involvement in leadership, meetings

• It seems that the APS committees and leadership are the same persons, year after year....simply recycled to different positions (i.e., a small club)

• Improve ability of young faculty to participate in section/APS committees. Seems difficult if you are not part of the "old boys" group

Opportunity to broaden meeting speakers

• Many meetings have the same

people speaking over and 0over—try to either generate other lists of speakers or other topics

• I sometimes have the feeling that in the conferences the talks are always given by the same US labs (heads and students) while the other labs abstracts are presented as posters. I would prefer to see more variety in the presentations

Increase involvement of women, minorities, younger faculty

• Like to see the Society support women and minorities in leadership positions and in their scientific careers. There's work still to be done in this area

• APS needs to continue and strengthen its efforts at inclusiveness. It has done an excellent job of engaging members at all career levels and without regard to gender, race, and ethnicity. Engaging even more in APS governance can only enhance the society

• We need new ways to include our female and minority members. We need to find ways to include women & minority nominees in the awards selection process. We need to encourage featured topic & symposium organizers to include women & minority speakers

• Provide more opportunities for junior members to get involved in leadership. Be aware that it's very unlikely a junior member will get elected on a ballot with a very active, senior APS member also running for the same position

Other comments highlight opportunity to better serve the international community

• I would like to see development of international chapters to promote and retain society membership. This would raise awareness of the Society, its publications and meetings. Chapters could provide some travel support for meritorious trainees

• As a Canadian member I don't see much content that is tailored towards the academic community here. This is a pity since there is a lot going on north of the border

• Wider international exchange programs focused on the corresponding

sections. The current idea with Latin America is going in the right directions, more like this is required. Also improve access for people from less favored regions to society resources

• Improve international attendance and benefits. For example, provide awards for people traveling from more remote areas and also provide international attendees with the same conference materials (e.g. program DVD abstracts etc) as US based attendees

• More outreach to graduate students outside of the US and recognition of the contributions of foreign APS members. Hardly ever does one see the name of a foreign member as the winner of an award.

Members would like to see more emphasis on interdisciplinary and translational science

• Promote Physiology as a discipline. Physiology should become synonymous with translational medicine. There is no substitute for assessment of function in determining translational ability.

• I'd like to see more topic meetings that are interdisciplinary. I'd like APS to be synonymous with interdisciplinary science--fostering more connections with engineers, mathematicians, clinical sciences, and public policy.

• Interaction of physiology with Translational research. Defining translational research and how a working knowledge of physiology would impact this type of NIH mandated research

• Increased emphasis on "translational" physiology at meetings. Bring the basic sciences into focus for systemic physiology - visa versa

• I would improve the physiologymedicine interaction, for instance promoting translational symposia under the topic "Clinical Physiology"

• Clinical and translational symposia at EB

The complete membership survey responses can be found at: http:// www.the-aps.org/about/2010 SurveyAnalysis.pdf). ❖

Time: 5:50 PM, Tuesday, April 12, 2011 Place: Washington, D.C.

I. Call to Order

The meeting was called to order at 5:50 PM by President Peter D. Wagner, who welcomed the members to the 164^{th} Business Meeting of the American Physiological Society.

II. Election of Officers

President Wagner announced the results of the election. The election was conducted via an online ballot. The new President-elect is Susan Barman, Michigan State Univ. (April 13, 2011-April 30, 2014). The three newly elected Councillors are Dennis Brown, Massachusetts General Hospital; Patricia Molina, Louisiana State Univ. HSC; and Jane Reckelhoff, Univ. of Mississippi Medical Center (April 13, 2011-April 30, 2014). The newly elected Councillors will serve a three-year term. All newly elected officers will assume office at the close of EB2011.

III. Membership

A. Summary of the Membership Status

President-Elect Joey Granger reported on the status of the Society membership. As of March 1, 2010, the current membership of the Society is 11,281, of which 8,326 are regular members, 27 are honorary members, 1,071 are emeritus members, 61 are affiliate members, and 1,720 are graduate student members, and 76 are undergraduate student members.

B. Deaths Reported Since the Last Meeting

A list of the names of those members whose deaths had been reported since the last meeting was displayed. The membership stood and observed a moment of silence in tribute to their deceased colleagues.

IV. State of the Society

President Wagner addressed the membership and spoke on the state of the Society. Wagner said his goals during his presidency were to re-establish the essential role of physiology in research and education, to extend the horizons of the APS in a new and rapidly changing scientific health and financial environment and to plan and execute strategic planning. He said that re-establishing the role of physiology presents a great opportunity for APS with the maturity of the genomic revolution and the call for translational research. Wagner said that with regards to extending APS' horizons, that this means not only does APS have to be responsive to the fast paced changes and challenges in funding, humane animal research, and publications, etc., but the Society also has to explore new ways that physiology can contribute knowledge and advance healthcare for humans and other animals.

Strategic Planning

Wagner reported that APS held a Strategic Planning retreat in January with approximately 50 attendees. The attendees included Council members. the Section Advisory Committee, some members of the Trainee Advisory Committee, and the APS staff directors. The group reviewed the Society's Strengths, Weaknesses, Opportunities, and Threats (SWOT) of the Society, which led to the development of five strategic directions. The five directions are: 1) increase efforts at public awareness; 2) recruit/retain members (individual/chapters); 3) strengthen APS Journal Program; 4) more opportunities for scientific interactions; and 5) undergraduate/health science physiology education.

Advocacy Efforts

Wagner said that during the past year, the APS Presidents and the Science Policy Committee have been involved with advocating for funding for NIH, and meeting with members of Congress. During their visits to Congress, they stressed the need for research funding, the importance of physiology, and the humane use of animals in research.

International Collaboration

Wagner said that APS should reach out to its international colleagues. To do this, APS has begun working with The Physiological Society (TPS) in the UK. TPS will be hosting the 2013 IUPS Congress. The two societies will have the first annual leadership retreat in July at the TPS annual meeting. They will discuss such topics as the IUPS and the possibility of publishing *Physiology in Medicine* as a joint venture. The two societies also have a symposia exchange at their respective annual meetings. APS is working to provide online access to *Physiology* to TPS members. Wagner said that he hopes the two will have a long and substantial relationship.

Working with Brazilian Society

Wagner said that APS will be one of the participating societies in the 2014 Pan American Congress which will be held in Brazil. APS is also working with the Brazilian Society on a trainee/faculty exchange program. Brazil will be hosting the 2017 IUPS Congress.

African Society

APS is providing meeting support and collaborating with this society where possible.

Awards program

Wagner said that APS has an extensive awards program that ranges from undergraduates to senior physiologists. Awards given include those for service to the Society, teaching and research, and most are targeted toward the trainee members. Many of the awards are funded through the endowment program.

125th Birthday

Wagner said that APS will be celebrating its 125th anniversary at EB2012, April 21-25, 2012. As part of the celebration, many of the sessions will have talks that are historically oriented. There will also be a birthday party on Saturday, April 21 on the North Embarcadero, and the theme of the Physiology inFocus sessions will be *Physiology as an Essential Element of Translational Research*.

Finances

Wagner said that APS has a balanced budget, and because of this and the fiscal responsibility of the Society, the losses in its reserves in 2008 were recovered more quickly than those of many other societies. Wagner said that APS uses 4% of its reserves annually to fund many of its programs particularly education and outreach programs.

Wagner reported that APS' grant income is almost \$1 million.

Publications

APS has 13, highly ranked journals. The impact factors for these journals range from 1.5 to 38. He said that one weakness of APS is that it depends heavily on publications for financial income. And although APS has a very successful publications program, there are many threats to it. These include an increasing number of ethical issue cases, the use of impact factor in faculty promotion, high acceptance, rapid, tech-only review, and new Open Access journals. Wagner said that *Physiological Genomics* is the first of the APS journals to be offered online only.

Comprehensive Physiology

Wagner said that *Comprehensive Physiology* is an online replacement for the older *Handbooks of Physiology*. The handbooks have been scanned, and are included. As of February, 2011, 354 articles have been invited of which 71 have been accepted, 65 articles are in review or revision, and 25 articles have been published. He said that as a serial, there will be an impact factor for *Comprehensive Physiology*.

Educational Outreach

Wagner said that APS is very proud of its educational program which has grown greatly in recent years. The Society reaches out to all levels of students from K through postdoctoral. These programs include PhUn Week, participating in the USA Engineering and Science Festival, and Professional Skills Training.

EB2011

This was the first year that APS based its program on sectional clustering. Wagner said that the Society and the Joint Program Committee (JPC) would like to get feedback from the membership on the clustering program, and a survey would be sent to the members who attended EB shortly after the end of the EB meeting. This will assist the JPC when they being programming for EB12.

Future APS Meetings

There will be two APS Conferences in 2011: 1)7*th* International Symposium on Aldosterone and the ENaC/Degenerin Family of Ion Channels: Molecular Mechanisms and Pathophysiology, September 18-22, 2011, Asilomar Conference Grounds, Pacific Grove, CA; and 2)Physiology of Cardiovascular Disease: Gender Disparities, October 12-14, 2011, Univ. of Mississippi, Jackson, MS. The Experimental Biology 2012 meeting will be April 21-25, in San Diego, CA.

V. Awards and Presentations A. Ray G. Daggs Award

Ray G. Daggs was the APS Executive Secretary-Treasurer from 1956 until his retirement in 1972. 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. The 2011 Daggs Awardee is Dr. Walter F. Boron.

Boron has contributed in numerous important ways over many years to both the science of physiology, the mentoring of young physiologists, and the leadership of the APS. He has performed pioneering work on the processes regulating intracellular pH, developing methods to measure and manipulate intracellular pH, using these methods to discover several transport processes for acids and bases across cell membranes, and the cloning of cDNAs that encode several of these transporters.

Boron's service and contributions to the APS and to the discipline of physiology have been extensive and of the highest quality. He has been an active member of APS since 1981, serving in many capacities including as Chair of the Renal Section during which time the Berliner Lectureship was established. He also served on the APS Council, and as the Society's 72nd President.

The 2000 Strategic Planning Meeting was held during his presidency, and many of the current APS activities can be traced back to his leadership years. He took on the critical task of Program Director for the 2005 Scientific Meeting of the International Union of Physiological Sciences and worked closely with APS and Dr. Curt Sigmund for the programming of this very successful international meeting, and now serves as the Secretary-General for the IUPS.

His outstanding contributions to APS and physiology are also reflected in his service on editorial boards and in editorial positions for such journals as *AJP-Renal, Fluid and Electrolyte Physiology*, the *Journal of Physiology*, the *Annual Review of Physiology*, *Physiological Reviews*, and *Physiology*. His editorship of the latter was transformational, changing *News in Physiological Sciences* into a highly ranked physiological journal of brief reviews.

B. Orr E. Reynolds Award

The Orr Reynolds Award, established in 1985 in honor of the second Executive Secretary-Treasurer. It is presented for the best historical article submitted by a member of the Society. Members may receive the award only once, and those members who have advanced degrees in the history of science or medicine are not eligible.

The recipient receives \$500 and expenses to attend the spring meeting of the Society. The 2011 Reynolds Awardee is Albert Gjedde, M.D. from the Univ. of Copenhagen, for his article entitled, "Diffusive Insights: On the Disagreement of Christian Bohr and August Krogh at the Centennial of the Seven Little Devils."

C. Bodil Schmidt-Nielsen Distinguished Mentor Award

The Bodil M. Schmidt-Nielsen Distinguished Mentor and Scientist Award honors a member of the Society who is judged to have made outstanding contributions to physiological research and demonstrated dedication



APS President Peter Wagner presents the Ray G. Daggs Award to Walter Boron.



APS President Peter Wagner presents the Orr E. Reynolds Award to Albert Gjedde.



APS President Peter Wagner, William Schmitt, Publishing Director for Elsevier, and selection Committee Chair Jeffrey Kingsbury present the Guyton Teacher of the Year to Barbara Goodman, Univ. of South Dakota.

and commitment to excellence in the training and mentoring of young physiologists, as well as colleagues. The award was established to recognize Dr. Bodil M. Schmidt-Nielsen, the first woman President of the Society and a distinguished physiologist who has made significant contributions in her field. The recipient of the 2011 Bodil Schmidt-Nielsen Award is Douglas C. Eaton, Emory Univ. School of Medicine.

D. Arthur C. Guyton Teacher of the Year Award

The Arthur C. Guyton Physiology Teacher of the Year Award is selected by the Teaching Section and is presented to an APS member who is a faculty member at an accredited college or university. The Selection Committee selects a candidate for the Award who demonstrates evidence of: first, excellence in classroom teaching over a number of years at undergraduate, graduate, or professional levels; second, commitment to the improvement of physiology teaching within the candidate's own institution; and third, contributions to physiology education at the local community, national or international levels. This year's selection committee was chaired by Dr. Jeffrey Kingsbury, Northern Arizona Univ., who presented the Award, along with William Schmitt, Publishing Director for Elsevier, to Dr. Barbara Goodman, Univ. of South Dakota (USD).

Goodman displays all the attributes any student would wish for in an instructor. Goodman has also been tireless in her efforts to redesign science courses in a way that would allow students to learn by doing experiments and sharing information.

Goodman has redesigned and is teaching half of a special section of a class on introductory biology for future elementary education majors. This class addresses all of the life science standards that K-8 teachers are supposed to be able to teach in a hands-on setting that stresses learning concepts and feeling comfortable with biology instead of memorizing large amounts of facts. She has also co-authored two published learning cycle units for the APS Frontiers in Physiology program for middle school students.

Besides being known as an educational leader nationwide, Goodman is also known as a leading educator around USD's campus. She is an imperative part of the USD Center of Teaching and Learning groups and book clubs that focus on improving edu-



APS President Peter Wagner, Eric Wehrwein, Chair, Trainee Advisory Committee present the Dale J. Benos Early Career Professional Service Award to Jessica Dominguez.

cation. In 2009, she received the Outstanding Educator Award for teaching undergraduate students by the Division of Basic Biomedical Sciences of Sanford School of Medicine of the Univ. of South Dakota.

E. Dale Benos Early Career Professional Service Award

This award was established to recognize Dale Benos, the Society's 79th President, Chair of Physiology at the Univ. of Alabama, Birmingham and a distinguished physiologist who was known and loved by many in the Society, and died suddenly last year. The award recognizes Dale's dedication and commitment to excellence in the training and mentoring of young physiologists, as well as colleagues.

The Early Career Professional Service Award honors a member of the Society at an early stage in their career (gradustudent, postdoctoral fellow, ate Assistant Professor or equivalent position) who is judged to have made outstanding contributions to the physiology community and demonstrated dedication and commitment to furthering the broader goals of the physiology community. This can be by serving on professional committees, participating in K-12 education outreach, participating in scientific advocacy and outreach programs, or by otherwise strengthening and promoting the physiology community.

Erica Wehrwein, Chair of the APS Trainee Advisory Committee joined Wagner in the award presentation. The recipient of the 2011 Dale Benos Early Career Professional Service Award is Jessica Dominguez, Univ. of Colorado School of Medicine, Denver.



APS President Peter Wagner, Ryuji Ueno, and Sachiko Kuno present Andrea Meredith with the S&R Foundation Award, along with Marianne F. Chaconas, S&R Foundation Vice President, and Douglas W. Charnas, Esq., S&R Foundation Secretary/Treasurer.



APS President Peter Wagner presents Yulia Komarova and Nikki Jernigan with the Giles F. Filley Memorial Award.

F. S&R Foundation Ryuji Ueno Award for Ion Channels or Barrier Function Research

The S&R Foundation Ryuji Ueno Award for Ion Channels or Barrier Function Research was established in 2007 by the American Physiological Society through the generous support of Ryuji Ueno, Sachiko Kuno, and S&R Foundation. Ueno and Kuno are founders of Sucampo Pharmaceuticals, Inc., and S&R Foundation, both in Bethesda, MD. The Ryuji Ueno Award is given annually to an individual demonstrating outstanding promise based on his/her research in ion channels or epithelial barrier function and who holds an academic rank of assistant professor or higher. The award of \$30,000 is designated for use in the ion channels or epithelial barrier function research program in which the awardee is conducting his/her research. APS is pleased to recognize this year's awardee Andrea L. Meredith, Univ. of Maryland School of Medicine.

G. 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 of \$12,000 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



APS President Peter Wagner presents the Lazaro J. Mandel Young Investigator Award to Alexander Staruschenko.

promise based on their research program. APS is pleased to recognize this year's awardees Nikki Jernigan, Univ. of New Mexico and Yulia Komarova, Univ. of Illinois, Chicago.

H. Lazaro J. Mandel Young Investigator Award

As a result of a bequest from the wife of Lazaro J. Mandel, a memorial fund was established in 1999 to recognize excellence in epithelial or renal physiology. An award is made to an APS member working in the United States who has demonstrated outstanding promise based on his or her research program. The awardee is an investigator who holds an academic rank no higher than assistant professor and is pursuing research in epithelial or renal physiology. The award is \$4,000 and is designated for the use of the awardee in his/her research program. APS is pleased to recognize this year's awardee Alexander Staruschenko, Medical College of Wisconsin.

I. Shih-Chun Wang Young Investigator Award

As a result of a bequest from the wife of Shih-Chun Wang, a memorial fund was established in 1998 to recognize excellence in physiology. An annual award is made to an investigator who holds an academic rank no higher than assistant professor and is pursuing research in physiology. The award is made to an APS member working in the United States who has demonstrated outstanding promise based on his or her research program. The award is for



APS President Peter Wagner presents the Shih-Chun Wang Young Investigator Award to Patrick Mueller.

approximately \$4,000 and is designated for the use of the awardee in his or her research program. APS is pleased to recognize this year's awardee Patrick Mueller, Wayne State Univ.

J. Arthur C. Guyton Young Investigator Award

The Arthur C. Guyton Award Fund was established in 1993 to recognize the contributions of Arthur C. Guyton and his interests in feedback, modeling, and integrative physiology. The awards are made to independent investigators working in the United States, 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. Each award is for \$15,000 and



APS President Peter Wagner presents the Arthur C. Guyton Young Investigator Award to Paul Fadel.



APS President Peter Wagner, Physiologists in Industry Committee representative Eugene Shek and Biopharma President Craig Plato present the Physiologists in Industry Committee Awards to Emily Young and Nicole L. Nichols.

is designated for use by the awardee in his/her research program. This year the Society is pleased to present the award to Paul J. Fadel, Univ. of Missouri.

K. International Early Career Physiologist Travel Awards

The International Early Career Physiologist Travel Award program was established in 2008 for graduate students, postdoctoral fellows and junior faculty members who work outside the United States. The intent of this award is to assist with the travel expenses of international early career physiologists while they are attending the EB Meeting to present their work. This year's awardees are Josiane Campos Cruz, Univ. of Sao Paulo; Daria Ilatovskaya, Inst. of Cytology RAS, Russian Federation: Elizabeth Oliveira-Sales, Fed. Univ. of Sao Paulo, Brazil; Ahmed Oloyo, Univ Lagos, Nigeria; Markus M. Rinschen, Universitätsklinikum Münster: Adriana Rodriguez-Pérez, Autonomus Univ. of San Luis Potosi; Peter Sipos, Univ. of Manchester; Tao Xing, Macquarie Univ.; and Samet Serdar Yildirim, Ankara Univ. Faculty of Medicine.

L. Physiologists in Industry Committee Awards

The Physiologists in Industry Awards were established in 1999, and are given to a graduate student and to a postdoctoral fellow submitting the best abstract describing a novel disease model. This award is sponsored by the Physiologists in Industry Committee and by Plato Biopharma, Inc. The 2011 Physiologists in Industry Awards were presented by Physiologists in Industry Committee representative Eugene Shek and Plato Biopharma President and CEO Craig Plato. The recipients of this year's awards are Emily Young, Univ. of Mississippi Medical Center, and Nicole L. Nichols, Univ. of Wisconsin School of Vetinary Medicine.

M. David S. Bruce Awards

The annual David S. Bruce Awards for Excellence in Undergraduate Research are granted to 10 undergraduate students who are first authors on a poster presented at the EB meeting. Each received a cash award of \$500. This year Ashley J. Bauer, Univ. of Minnesota, Duluth, Samantha J. Bilko, Oklahoma State Univ., Julia V. Gorgone, Univ. of California, Davis, Jonathan P. Gumucio, Univ. of Michigan, Joseph E. Jacobson, Univ. of Wisconsin, Madison, Kyle W. Leggett, Johns Hopkins Sch. Medicine, Beryl Manning-Geist, Williams College,

Brittany L. Reinert, Wright State Univ., Mehria Sayad-Shah, Univ. of California, San Diego, Kyle Stang, Univ. of Wisconsin, Madison, and Michelle Sullivan, Colorado State Univ., were selected as the David S. Bruce Awardees.

N. Macknight Progressive Educator Award

The Macknight Progressive Educator Award, supported by ADInstruments, is named in honor of Anthony Macknight, APS member since 1978 and founder of ADInstruments. The Award honors an APS member who demonstrates the greatest potential for incorporating innovative teaching techniques and for effectively utilizing technology resources in engaging undergraduate students in physiology education. The awardee received a \$1,500 Travel Award to attend the Experimental Biology meeting and an Institutional Grant providing the award recipient's institution with a PowerLab LabTutor Physiology Teaching Bundle or equivalent.

This year the Society is pleased to recognize Gregor Belusic, Biotechnical Faculty, Ljubljana, Slovenia as the first ADInstruments Macknight Progressive Educator Awardee.

O. Caroline tum Suden/Frances Hellebrandt Professional Opportunity Awards

The recipients of the Caroline tum Suden awards are selected by the Women in Physiology Committee chaired by Jane Reckelhoff. This year's 35 awards were made possible by the bequests of Caroline tum Suden and Frances Hellebrandt, who were long-



APS President Peter Wagner and Steven Horvath present the Steven M. Horvath Professional Opportunity Awards to Kristi Porter and Keshari Thakali.

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APS President Peter Wagner presents Kathryn Sandberg, outgoing Awards Committee Chair, with a certificate of appreciation.

time members of the Society. Awards are open to graduate students or postdoctoral fellows who have first-author abstracts and present papers at the EB meeting. Recipients receive a \$500 check and paid registration.

P. Steven M. Horvath

Professional Opportunity Awards

In addition to the tum Suden awards, the Women in Physiology Committee select the top two applications from minority candidates to be the Steven M. Horvath awardees. The identification of these individuals is a reflection of Steven Horvath's long-term commitment to the training of minority physiologists. These awards are made possible by a bequest of the family of Steven



APS President Peter Wagner presents Pater Lauf, outgoing Chapter Advisory Committee Chair, with a certificate of appreciation.

M. Horvath, a long-time APS member. This year's awardees are Kristi Porter, Emory Univ. and Keshari Thakali, Univ. of Arkansas Medical.

Q. Minority Travel Fellowships

The Minority Travel Fellowship Award program was established in 1987 for minority physiologists, and is open to graduate students, postdoctoral students, and advanced undergraduate students, as well as minority faculty members. Funds are provided for travel and per diem to attend the annual spring meeting and APS conferences. This program is supported by the NIDDK. The intent of this award is to increase participation of pre- and post-



APS President Peter Wagner presents P. Darwin Bell, outgoing Conference Committee Chair, with a certificate of appreciation.

doctoral minority students in physiological sciences. This year APS presented 32 Minority Travel Fellowship Awards.

R. Porter Physiology Development Fellowship Awards

Since 1967, the Porter Physiology Development program has promoted diversity among students pursuing full-time studies toward the PhD (or DSc) in the physiological sciences and to encourage their participation in the APS. The Porter Fellowship provides one- to two-year full-time graduate fellowships and is open to underrepresented minority applicants who are citizens or permanent residents of the



APS President Peter Wagner presents Barbara Horwitz, outgoing Ray G. Daggs Award Committee Chair, with a certificate of appreciation.



APS President Peter Wagner presents Craig Plato, outgoing Physiologists in Industry Committee Chair, with a certificate of appreciation.



APS President Peter Wagner presents Patricia Molina, outgoing Porter Physiology Development Committee Chair, with a certificate of appreciation.

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APS President Peter Wagner presents Kim Barrett, outgoing Publications Committee Chair, with a certificate of appreciation.

United States or its territories. Fellows are selected by the Porter Physiology Development Committee. Since its inception, awards have been made to over 200 fellows. This year APS presented eight Porter Pre-Doctoral Fellowship Awards.

S. K-12 Minority Outreach Fellowships

The APS K-12 Minority Outreach Fellowship seeks to foster communication between minority graduate and postdoctoral students and middle/high school minority life sciences students. Program activities, supported by a grant from the National Institute of Diabetes and Digestive and Kidney Disease (NIDDK), include year-long outreach fellowships for senior graduate students



APS President Peter Wagner presents Jane Reckelhoff, outgoing Women in Physiology Committee Chair, with a certificate of appreciation.

and postdoctoral fellows to visit K-12 classrooms, help conduct teacher professional development workshops, and attend scientific meetings.

Over the 2011-2012 Fellowship year, students will attend EB 2011 and 2012, work with the Frontiers in Physiology Research Teachers, carry out two classroom visits, participate in PhUn Week, and attend conferences for minority students in the fall. The 2011 Fellows are Heidy Contreras, Univ. of Arizona, and Inimary Toby, Civil Aerospace Medical Institute.

T. Undergraduate Summer Research Fellowships

In 2000, the APS Council approved funds to develop and support summer research fellowships for undergraduate



APS President Peter Wagner presents Ann Schreihofer, outgoing Central Nervous System Section Chair, with a certificate of appreciation.

students. The program was initiated in recognition of the importance of undergraduate research experience leading to a career in physiology research. Twenty-three fellowships were made to support full-time undergraduate students to work in the laboratory of an established physiologist. This year's recipients are: Prashasti Agrawal, Dartmouth College; Ayed M. Allawzi, Purdue Univ.; Jacquelynn N. Cuellar, Univ. of Texas, Brownsville; Stephanie V. Eldred, Pennsylvania State Univ.; Jonathan Gumucio, Univ. of Michigan; Robert Heler, Univ. of Richmond; Diana Herrera, Univ. of Houston: Jacob Hull. Kansas State Univ.; Michael Johnston, Univ. of North Carolina; Anh-Thu Le, Cornell Univ.; Kelly M. Lufkin, Hope College; Mariaha J. Lyons, Univ. of



APS President Peter Wagner presents James Rose, outgoing Endocrinology and Metabolism Section Chair, with a certificate of appreciation.



APS President Peter Wagner presents Marilyn Merker, outgoing Respiration Section Chair, with a certificate of appreciation.



APS President Peter Wagner presents Jane Reckelhoff, outgoing Water & Electrolyte Homeostasis Section Chair, with a certificate of appreciation.



APS President Peter Wagner presents Gordon Mitchell, outgoing Councillor, with a certificate of appreciation.

North Dakota; Danielle Mabrey, Univ. of Wisconsin, Madison; Mary C. McAllister, Univ. of Notre Dame; Christina Mitchell, Mount Royal Univ.; William P. Mosenthal, St. Lawrence Univ.; Alexandrea Nichols, Univ. of Utah; Matthew V. Puccetti, Univ. of Dayton; Sara Redd, Bucknell Univ.; Anna Srouji, Univ. of California, Riverside; Breanne N. Wright, Univ. of Maryland, Baltimore Co.; Sen Xu, Tulane Univ.; and Caitlin M. Zillner, Univ. of Wisconsin, Madison.

U. **Recognition of Outgoing Committee Chairs**

Wagner recognized the outgoing committee chairs and thanked them for their service to the APS. The outgoing chairs are Kathryn Sandberg, Chair of



ents Frank Powell. outgoing Councillor, with a certificate of President. appreciation.

the Awards Committee, Peter Lauf, Chair of the Chapter Advisory Committee; P. Darwin Bell, Chair of the Conference Committee; Barbara Horwitz, Chair of the Ray G. Daggs Award Committee, Craig Plato, Chair of the Physiologists in Industry Committee, Patricia Molina, Chair of the Porter Physiology Development Committee, Kim Barrett, Chair of the Publications Committee, and Jane Reckelhoff, Chair of the Women in Physiology Committee.

V. **Recognition of Outgoing** Section Chairs

Ann Schreihofer, Chair of the Central Nervous System Section, James Rose, Chair of the Endocrinology and Metabolism Section, William Welch,

APS President Peter Wagner pres- APS President Peter Wagner presents a plaque to Gary Sieck, APS Past Chair of the Renal Section, Marilyn Merker, Chair of the Respiration Section, William Galey, Chair of the Teaching Section, and Jane Reckelhoff, Chair of the Water & Electrolyte Homeostasis Section complete their terms at the close of the EB11 meeting.

to their sections and to APS. W. **Recognition of Outgoing** Councillors

Wagner thanked them for their service

Councillors Gordon Mitchell, Frank Powell, and Linda Samuelson will complete their terms at the close of this meeting. Wagner thanked them for their service to the Society.

Wagner then thanked the APS staff saying that "without them we would be nothing."



Executive Director Martin Frank and Tim Burkholder present Gerald Koocher with the Walter C. Randall Award.



APS Section Advisory Committee: Front Row: Marilyn Merker, Pam Carmines, Ann Schreihofer, Eric Delpire, Heddwen Brooks; Back Row: Scott Powers, Jane Reckelhoff, Robert Hester, William Welch, Mark Chapleau, Siribhinya Benyajati, William Galey, Marshall "Chip" Montrose, Josh Anthony.



APS Council: Front Row: Gary Sieck, Susan Barman, Pam Carmines, Peter Wagner, Joey Granger, Ida Llewellyn-Smith, David Brooks; Back Row: John Chatham, J.R. Haywood, Usha Raj, Jane Reckelhoff, Thomas Pressley, Ken Baldwin, Ron Lynch, Frank Powell, Linda Samuelson, Alan Sved, Jeff Sands.

X. Recognition of

Past President Gary C. Sieck Wagner said that "It is a joy to thank Gary Sieck. I have learned a tremendous amount from him and I want to thank him for doing such a tremendous job for the society."

Y. New Business

No new business.

VII. Passing of the Gavel

Wagner then passed the gavel to Joey Granger, Univ. of Mississippi Medical Center, incoming President of the American Physiological Society. Wagner said that "It is my privilege and pleasure to hand the gavel to you as the 84th president."

Granger, upon accepting the gavel, said the "I look forward to working with APS and the APS membership. I want to thank Peter for his outstanding service during the past year."

There being no new business, the meeting was adjourned at 7:08 PM, April 12, 2011. \diamondsuit

Joey Granger President-Elect



APS President Peter Wagner and President-elect Joey Granger.



APS Presidents: Front Row: Shu Chien, Hannah Carey, William Dantzler, Peter Wagner, Susan Barman, Gary Sieck, Barbara Horwitz; Back Row: Irv Zucker, James Schafer, John Hall, Allen Cowley, Joey Granger, L. Gabriel Navar, John West.



President Peter Wagner presents Roberto Bolli with the Walter B. Cannon Memorial Award.



Past President Gary Sieck presents Larissa Shimoda with the Henry Pickering Bowditch Award.

PhUn in November!

PLAN FOR THE AMERICAN PHYSIOLOGICAL SOCIETY'S ANNUAL PHYSIOLOGY UNDERSTANDING WEEK DURING THE 1st WEEK IN NOVEMBER...

August: PARTNER with a teacher NOW! Visit www.PhUnWeek.org and email phunweek@the-aps.org for program info.

DEVELOP a plan with the teacher.

- September: SUBMIT the PhUn Week Event Planner. Quantities of freebies are limited. Requests are on a first-come, first-served basis.
- > October 1: DEADLINE for PhUn Week Event Planners.
- > Mid-October: PUBLICIZE in local news outlets.
- > November: PhUn Week! VISIT a classroom!



Connect with a K-12 Teacher NOW as the school year begins!

www.PhUnWeek.org



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Undergraduate Students Receive David S. Bruce Awards

Undergraduate students who were first authors on an abstract submitted to Experimental Biology 2011 in Washington, DC were eligible to apply for the David S. Bruce Awards. This year, the Bruce Awards were split into two awards: the Outstanding Undergraduate Abstract Award and the Excellence in Undergraduate Research Awards.

The APS Education Committee, chaired by Thomas Pressley, Texas Tech Univ. Health Sciences Center, selected 24 Outstanding Undergraduate Abstract Awardees from a pool of 77 applicants. Awardees were chosen based on the quality and novelty of their abstracts and letters written by the candidates describing their career goals, research, and why they were particularly deserving of the award. The Outstanding Abstract 24Awardees were: Ashley J. Bauer, Univ. of Minnesota, Duluth, lab of Jeffrey S. Gilbert; Samantha J. Bilko, Oklahoma State Univ., lab of Pamela G. Lloyd; Drew S. Colson, Univ. of Mississippi Med. Ctr., lab of Joey P. Granger; Stephanie V. Eldred, Pennsylvania State Univ., lab of Donna H. Korzick; Julia V. Gorgone, Univ. of California, Davis, lab of Chao-Yin Chen; Jonathan P. Gumucio, Univ. of Michigan, lab of Susan V. Brooks, and Christopher L. Mendias; Jarl M. Haggerty, Univ. of Arizona, lab of Jason Q. Pilarski; Robert Heler, Univ. of Richmond, lab of Linda M. Boland; Joseph E. Jacobsen, Univ. of Wisconsin, Madison, lab of Marlowe W. Eldridge; Kyle W. Leggett, Johns Hopkins School of Medicine, lab of Larissa A. Shimoda; Carly J. Lewis, Univ. of California, Davis, lab of Barbara A. Horwitz; Molly E. MacDonald, Michigan State Univ., lab Carrie A. Northcott; Beryl of Manning-Geist, Williams College, lab of Steven J. Swoap; Brittany L. Reinert, Wright State Univ., lab of Lynn Hartzler; Ruben Rodriguez, Univ. of California, Merced, lab of



2011 David S. Bruce Outstanding Undergraduate Abstract Awardees.



2011 David S. Bruce Excellence in Undergraduate Research Awardees.

Rudy M. Ortiz; Mehria Sayad-Shah, Univ. of California, San Diego, lab of Alan R. Hargens; John R.A. Shepherd, Mayo Clinic, lab of Darren P. Casey; Natalie N. Snider, Univ. of Kentucky, lab of Francisco H. Andrade; Naina Soni, Univ. of Maryland, College Park, lab of James M. Hagberg; Kyle Stang, Univ. of Wisconsin, Madison, lab of Mary Behan; Michelle Sullivan, Colorado State Univ., lab of Scott Earley; Eliza S.van Heerden, Bates College, lab of Ryan W. Bavis; Sen Xu, Tulane Univ., lab of Lisa M. Harrison-Bernard: and Caitlin M. Zillner, Univ. of Wisconsin, Madison, lab of William G. Schrage.

Awardees receive 2 years of APS undergraduate membership and a certificate of recognition.

These students were then eligible for the Bruce Excellence in Undergraduate Research Awards. They were required to make oral presentations of their posters to a subcommittee of Education Committee members and other APS members. Eleven awardees were selected based on their knowledge of their research project. Each awardee received \$500 and a certificate of recognition. This year APS was pleased to receive additional support again from Dr. Isis, her ScienceBlogs readers, and SEED Magazine. In addition, support was also received from the APS Central Nervous System Section, and APS Members Marlowe W. Eldridge, Ida J. Llewellyn-Smith, and Linda C. Samuelson. Awards were presented by President Peter D. Wagner during the special APS Undergraduate Poster Session. The awardees were: Ashley J. Bauer, Univ. of Minnesota, Duluth, lab of Jeffrey S. Gilbert; Samantha J. Bilko, Oklahoma State Univ., lab of Pamela G. Lloyd; Julia V. Gorgone, Univ. of California, Davis, lab of Chao-Yin Chen; Jonathan P. Gumucio, Univ. of Michigan, lab of Susan V. Brooks, and Christopher L. Mendias; Christopher L. Mendias; Joseph E. Jacobsen, Univ. of Wisconsin, Madison, lab of Marlowe W. Eldridge; Kyle W. Leggett, Johns Hopkins School of Medicine, lab of Larissa A. Shimoda; Beryl Manning-Geist, Williams College, lab of Steven J. Swoap; Brittany L. Reinert, Wright State Univ., lab of Lvnn Hartzler: Mehria Savad-Shah. Univ. of California, San Diego, lab of Alan R. Hargens; Kyle Stang, Univ. of Wisconsin, Madison, lab of Mary Behan; and Michelle Sullivan, Colorado State Univ., lab of Scott Earley.

APS congratulates all these students on the quality of their research and presentations.

The awards are named in honor of member David S. APS Bruce (1939-2000), who served as Chair of the APS Teaching Section and was a professor of physiology at Wheaton College from 1978-2000. Dr. Bruce was a dedicated physiology educator who had a particular interest in engaging undergraduate students in scientific research. Dr. Bruce not only encouraged and supported his students in participating in research, but he also regularly brought undergraduate students to the Experimental Biology meeting, often to present their research findings.

Undergraduate Research Highlighted at Special EB Session

EB 2011 provided the setting for the 8th annual APS Undergraduate Poster Session. This special session highlights the contributions of undergraduate students to physiology research. Students present their poster at both their regularly scheduled poster session and the special Undergraduate Poster Session. This year it was held on Sunday afternoon and culminated with the presentation of the David S. Bruce Excellence in Undergraduate Research Awards and the awards for the first APS Video Contest: APS Presents...Phantastic Physiology Voyage: "Function Follows Form."

Of the 139 undergraduate first authors invited to present at the APS Undergraduate Poster Session, 97 accepted the invitation and took advantage of the opportunity to display their poster and present it to interested scientists and guests. In addition, for the first time, APS was joined by the American Association of Anatomists (AAA). An additional 24 anatomy undergraduate presenters were there to participate in the session along with AAA society members. Approximately 200 APS and AAA members and guests were in attendance at the session, with many comments heard as to the high quality of research being presented by the students. The students and their research were highlighted again this year in a special printed program distributed during the session.

The session not only provided all these undergraduate students with an opportunity to highlight their research but also to meet faculty from many graduate schools and medical schools to discuss their future plans. This is the sixth year that graduate departments were invited to sponsor the session and display promotional materials for their departments to those undergraduates considering graduate school. This year the departments and students arrived 30 minutes before the session to allow the students to spend time with the departments without having to leave their posters. The following schools participated: Univ. of Arizona. Physiological Sciences Graduate Interdisciplinary Program; Columbia Univ. College of Physicians &



Exhibitors from various physiology departments and graduate programs talk with undergraduates about graduate opportunities.



Undergraduates discuss their research with APS members.

Surgeons, Department of Physiology & Cellular Biophysics; Dalhousie Univ., of Physiology Department & Biophysics; Georgia Health Sciences Univ., Department of Physiology; Louisiana State Univ. Health Sciences Center, Department of Physiology; Mayo Clinic College of Medicine, and Physiology Biomedical Graduate Engineering Program; Medical College of Wisconsin, Department of Physiology; Univ. of Michigan, Department of Molecular and Integrative Physiology; Pennsylvania State Univ., Huck Institutes of Life Sciences; Saint Louis Univ., Graduate Program in the Biomedical Sciences; Texas A&M Health Science Center, School of Graduate Studies; Texas Tech Univ. Health Sciences Center, Graduate School of Biomedical Sciences; Tulane Univ., Department of Physiology; Vanderbilt Univ. Medical Center, Department of Molecular Physiology & Biophysics; Virginia Commonwealth Univ. School of Medicine, Department of Physiology and Biophysics.

The departments also received a list of undergraduate presenters who indicated they were interested in being contacted about attending graduate school.

APS looks forward to hosting APS Undergraduate Poster Sessions at future Experimental Biology meetings and encourages undergraduate students doing research in physiology to submit abstracts for EB, apply for the David Bruce award, and attend the poster session in 2012. Departments who are interested in sponsoring the 2012 Undergraduate Poster Session and displaying materials for their departments are encouraged to contact the APS Education Office (education@the-aps.org).

Undergraduate Summer Research Fellows Attend EB

The 2010 Undergraduate Summer Research Fellows (UGSRFs) came to the 2011 Experimental Biology meeting held in Washington, DC to report on their research findings from last summer.

Twenty-one of the 24 UGSRFs attended the meeting. Seventeen of the UGSRFs were first authors on 22 abstracts submitted to the meeting. Susan Barman, APS President-Elect, congratulated the UGSRFs on their scientific research efforts and presented them with certificates for completing their fellowship.

For the fourth year, all undergraduates who had first-author posters were invited to a special Undergraduate Orientation Session. The UGSRFs were joined by the finalists for the David S. Bruce Awards for Excellence in Undergraduate Research, in addition to approximately 25 other undergraduates for the session. Thomas Schmidt, Chair of the Career Opportunities in Physiology Committee, welcomed the undergraduates and introduced the UGSRFs. Thomas Pressley, Chair of the Education Committee, introduced the Bruce finalists and reminded the undergraduates about the special Undergraduate Poster Session on Sunday. Erica Wehrwein, Chair of the Trainee Advisory Committee, gave a presentation on attending a scientific meeting and how to get the most out of being there, both in terms of science and career talks as well as social activities. TanYa Gwathmey, trainee member of the Careers Committee, gave a talk on poster presentations and hints for making that a positive experience. Members of the Career **Opportunities in Physiology and Trainee** Advisory Committees attended the session and sat among the undergraduates to offer their own advice.

On Sunday, the UGSRFs participated in the APS Undergraduate Poster Session and presented their posters to APS members, in addition to their regularly scheduled scientific session.

Overall, the UGSRFs saw the EB meeting as being a very positive learning experience and appreciated the opportunity to come and present their research.



2010 Undergraduate Summer Research Fellows.

Beloit College Undergraduates Win First Video Contest

Rhiannon Dixon, Krista Lowe, and Keith Olson of Beloit College are the first recipients of the APS Presents...Phantastic Physiology Voyage 2009: "Function Follows Form Video Contest Award.

Raksha Ashlaysha, Katharine Wolf, Elise Wolff, Katherine Miller, Tyler Senz, and Jomar Salazar, also of Beloit College won the Viewers' Choice Award for the contest.

The video contest encourages undergraduate and graduate students to creatively connect with physiology and engages them with the broader public through a short video contest. These videos would creatively demonstrate and/or explore a specific physiological function in five minutes or less. Videos can be staged as a short play, commercial, news broadcast, talk show, music video, documentary etc.

The APS Career Opportunities in Physiology Committee chaired by Thomas Schmidt (Univ. of Iowa) selected the award-winning video from the applicants. The winning video was chosen based on originality, creativity, and quality of the video; whether the video explained the scientific principle at issue clearly and accurately; whether the video made physiology more interesting and relevant; and overall impact.

Finalist videos were then advertised on the APS website and Facebook pages to encourage members and guests to review and vote for their favorite on You-Tube. Voting was closed during the EB meeting and the Viewers' Choice Award given based on the total number of YouTube views.

The award-winning video team received \$750 and certificates of recognition. The Viewer's Choice Award team received \$250 and certificates of recognition.

Awards were presented during the Undergraduate Poster Session held during EB. APS congratulates these awardees.

Novel Disease Model Awards Granted to Graduate Student and Postdoctoral Fellow

Predoctoral students and postdoctoral fellows who were first authors on an abstract submitted to Experimental Biology 2011 in Washington, DC were eligible to apply for the Novel Disease Model Awards.

The APS Physiologists in Industry Committee chaired by Kelly R. Pitts, from Corgenix Medical Corporation, selected a predoctoral and a postdoctoral awardee from the applicants. Awardees were chosen based on the novelty of the model and the potential utility of the system for future research related to a disease process.

The predoctoral awardee received \$500, a certificate of recognition, and complimentary advanced registration for the EB 2011 meeting. The postdoctoral awardee received \$800, a certificate of recognition, and complimentary advanced registration for the EB 2011 meeting. Beginning in 2011, the Novel Disease Model Awards are being sponsored by Plato BioPharma, Inc.

The Predoctoral Awardee was Emily Young, Univ. of Mississippi Medical Center, for his abstract entitled "Postmenopausal obesity promotes tumor angiogenesis and breast cancer progression."

The Postdoctoral Awardee was Nicole L. Nichols, Univ. of Wisconsin School of Veterinary Medicine, for her abstract entitled "Enhanced phrenic long-term facilitation (pLTF) following intermittent hypoxia in a rat ALS model (SOD1G93A) is attenuated by spinal siRNAs targeting BDNF and TrkB synthesis."

Awards were presented during the APS Business Meeting. APS congratulates these awardees.

Dominguez Receives 4th Dale J. Benos Early Career Professional Service Award

The APS Trainee Advisory Committee is pleased to announce that Jessica A. Dominguez, assistant professor in the Department of Anesthesiology at the Univ. of Colorado Anschutz Medical Campus, has been selected as the fourth recipient of the APS Dale J. Benos Early Career Professional Service Award. The Committee was extremely impressed with Dominguez's remarkable level of service with students at the graduate/medical, under-



President Peter Wagner congratulates 2011 video contest awardees Keith Olson, Krista Lowe, and Rhiannon Dixon of Beloit College.



2011 Novel Disease Model Awardees Emily Young (2nd from left) and Nicole Nichols (2nd from right) with President Peter Wagner (far left); Craig F. Plato (center), President and CEO of sponsor Plato BioPharma, Inc.; and Eugene W. Shek, representative of the Liaison with Industry Committee.

graduate, and K-12 levels. This service can be seen in three areas: outreach/ teaching, mentoring, and leadership, each of which is visible during her career as a graduate student, postdoctoral fellow and now as a faculty member.

Outreach/Teaching: As a graduate student, Dominguez developed a love of teaching and received a Certificate in College Teaching. She designed and implemented an upperlevel undergraduate course in Pathophysiology of Human Disease that she taught for two years as a graduate student. She also volunteered at a Young Scientist Fundraiser for a local children's research center. That led to her receiving an invitation to address their Board of Directors about her research and the role trainees play at the center. That, in turn, led to the development of a new fellowship for trainees.

As a Postdoctoral Fellow, Dominguez was a teaching assistant, gave guest lectures in graduate courses, and became Adjunct Faculty at a local university. She was named an APS K-12 Minority Outreach Fellow, which allowed her to visit K-12 classrooms to talk about physiology, especially at schools with predominantly minority students. She also was involved in a Science Speakers Outreach Program that offered seminars on research to the general public and speakers to K-12 classrooms. As a faculty member, Dominguez continues to serve as a constant local science fair judge, as well as an invited speaker at both local and international science fairs. She has been active over the years in many different roles in the APS programs Frontiers in Physiology, PhUn Week, and Physiology for Life Science Teachers and Students at EB.

Mentoring: Dominguez began mentoring students as an undergraduate, starting with her involvement with the Undergraduate Biology Research Program, Biomedical Research Abroad: Vistas Open! and Pen Pals program, which paired undergraduates with 8th graders. To date, she has mentored over 10 trainees.

As a postdoc and new faculty member, she has been involved in programs that bring underrepresented minority high school students and/or teachers into the lab to introduce them to research for a day or over the summer. Dominguez regularly serves as a meeting mentor during EB and the Shock Society meetings. She was selected as the Chair of the Shock Society's Diversity Task Force and has developed two new awards: one for minority trainees attending the meeting and the other for minority high school and undergraduate students to become involved in research.

As a result of her outreach activities and mentoring abilities, she was invit-



Jessica A. Dominquez (center) is presented with the Dale J. Benos Early Career Professional Service Award by President Peter Wagner and Erica A. Wehrwein, Chair of the Trainee Advisory Committee.

ed to be the keynote speaker at a national conference to talk about the importance of science outreach and mentoring.

Leadership: As a graduate student, Dominguez organized a weekly seminar series for departmental graduate students. As a postdoc, she served both as Vice President and President of the Washington Univ. Postdoctoral Society. She was asked to serve on the Postdoctoral Policy Review Committee and the Office of Postgraduate Affairs Strategic Planning Committee. She competed for and received a travel award to attend the National Postdoctoral Association meeting. Since 2006, she has served on the HHMI Science Education External Grant Advisory Committee at the Univ. of Arizona.

Recently, she was invited to serve on the Academic Program Review Graduate Committee for the Interdisciplinary Program in Physiological Sciences. At her own institute, she served on the NIH T32 Training Grant Planning Committee and was just named the Director of Diversity Recruitment and Retention in her department.

She is active both in the APS and the Shock Society. She has served on three committees for APS, Trainee Advisory, Membership and now Education and her section Steering Committee. She serves on the Mentorship Committee for the Shock Society as on their Diversity Task Force.

Because of her commitment to outreach, teaching, mentorship, and leadership, the Committee and APS Council is pleased to award the 2011 Dale J. Benos Early Career Professional Service Award to Jessica A. Dominguez.

Graduate Students and Postdoctoral Fellows Receive tum Suden/Hellebrandt Professional Opportunity Awards

Graduate students and postdoctoral fellows who were first authors on an abstract submitted to Experimental Biology 2011 in Washington, DC were eligible to apply for the Caroline tum Suden/Frances A. Hellebrandt

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APS President Peter Wagner and Steven Horvath's son Peter present Kristi Porter and Keshari Thakali the Steven M. Horvath Professional Opportunity Awards.

Professional Opportunity Award. A fund established to honor the memory of Steven M. Horvath, a distinguished APS member, provides support for the top two underrepresented minority awardees.

The APS Women in Physiology Committee chaired by Jane F. Reckelhoff, at the Univ. of Mississippi Medical Center, selected 37 awardees from a pool of 142 applicants. Applicants were required to be APS members (either student or regular) and could not have won the award previously as a graduate student if currently a graduate student or as a postdoctoral fellow if currently a postdoctoral fellow. Applicants were chosen based on the quality and novelty of their abstracts, and letters written by the candidates describing their career goals, research, and why they were particularly deserving of the award. Each awardee received \$500, a certificate of recognition, and complimentary advanced registration for the EB 2011 meeting.

Awards were presented during the APS Business Meeting. Awardees Balasubramanian, were: Priya Michigan State Univ.; Rebecca Bruning, The Pennsylvania State Univ.; Priscila Cassaglia, Oregon Health & Sciences Univ.; Kavaljit Chhabra, LSUHSC, New Orleans; Wen-Shuo Chung, Univ. of Mississippi Medical Center; Anna D'souza, York Univ.; John Durocher, Michigan Technological Univ.; Michelle Eagle, Tulane Univ. School of Med.; Michael Hicks, Arizona State Univ.; Lily Huang, Tulane Univ.;

Kristen Jablonski, Univ. of Colorado, Boulder: Wararat Kittikulsuth, Medical College of Georgia; Kristine Kurtz, LSUHSC; Keisa Mathis, Univ. of Mississippi Medical Center; Mendez, Mariela Henry Ford Hospital; Jessica Otis, Univ. of Wisconsin-Madison; Kristi Porter*, Emory Univ.; John Reho, The Univ. of Akron; Stefano Rimoldi, CHUV, Lausanne; Erin Rosenbaugh, Univ. of Nebraska Medical Center; Caroline Smith, The Pennsylvania State Univ.; Jessica Snow, Univ. of New Mexico School of Medicine: Jesse Solomon. York Univ.: Alexandra Soto-Pina. Univ. of Texas Health Science Center at San Antonio; Joshua Speed, Univ. of MS Med Center; Kathryn Spitler, Medical College of Georgia; Anna Stanhewicz, The Pennsylvania State Univ.; Kristi Strey, Univ. of Wisconsin Madison; Madhan Subramanian, Michigan State Univ.; Danielle Templeton, Univ. of Colorado, Boulder; Keshari Thakali*, Univ. of Arkansas Medical Sciences; Carmen Troncoso Brindeiro, Dartmouth Medical School; Zhen Wang, Univ. of Arkansas for Medical Sciences; Crystal West, Virginia Commonwealth Univ.; Annie Whitaker, LSUHSC, New Orleans; Justin Wilson, Howard Univ.; and Huan Yang, Michigan Technologi-cal Univ.(*Steven M. Horvath Awardees).

For information about applying for the 2011 tum Suden/Hellebrandt and Horvath Awards, see http://www.the-aps.org/awards/student/TumSuden.htm.



2011 tum Suden Awardees at the APS Business Meeting during EB.

Belušič Receives First ADInstruments Macknight Progressive Educator Award



Gregor Belušič, from the Department of Biology, Biotechnical Faculty, Ljubljana, Slovenia, received the first ADInstruments Macknight Progressive Educator Award.

Gregor Belušič

This award honors an APS member who demonstrates the greatest potential for incorporating innovative teaching technology resources in engaging undergraduate students in physiology education. It is sponsored by ADInstruments in honor of its cofounder, Tony Macknight.

The APS Education Committee chaired by Thomas Pressley (Texas Tech Univ.) selected Belušič from the pool of applicants. He was chosen based on a two- to three-page description of a laboratory experiment or activity that exemplifies innovative use of technology in physiology education, an explanation of how this activity/technique can be integrated in the curriculum to best benefit students, a CV, and a letter of recommendation from his Department Chair or administrator. Belušič's proposal was entitled "Singing greeting card beeper as a finger pulse sensor and acceleration transducer."

The awardee receives a \$1,500 Travel Award to attend Experimental Biology, a certificate of recognition, and an Institutional Grant providing the award recipient's institution with a PowerLab PTB 4152 LabTutor Physiology Teaching Bundle or its equivalent. Because of the lateness of the award's announcement, Belušić was unable to attend EB2011 and will instead participate in EB2012 in San Diego, CA.

APS congratulates Dr. Gregor Belušič on receiving this award.

Eaton Receives Schmidt-Nielsen Distinguished Mentor and Scientist Award

The APS Women in Physiology Committee hosted a reception at Experimental Biology 2011 to honor Douglas Eaton, Director, Center for Cell & Molecular Signaling, and Distinguished Professor and Chair, Department of Physiology, Emory Univ. Medical School, who was selected as the eighth recipient of the Bodil M. Schmidt-Nielsen Distinguished Mentor and Scientist Award.

Close to 100 trainees, EB awardees, and colleagues gathered to celebrate the award and hear Eaton's award lecture entitled, "Mentoring, or the Fine Print in my Diploma." The talk will be published in a future issue of The *Physiologist* and posted on the APS Mentoring web site (http://www.theaps.org/career). Dee Silverthorn, Univ. of Texas, who coordinated the nomination of Eaton for the award, was present to introduce him. Jeff Sands and My Helms, award nominators both from Emory Univ., also introduced Eaton. The award was presented to Eaton by Jane F. Reckelhoff, Chair of the Women in Physiology Committee, and Joey Granger, incoming President of the APS.

Eaton received his PhD at the Univ. of California, San Diego. He did his postdoctoral training in the Department of Physiology at the Univ. of California, Los Angeles. In 1973, he was hired as an Assistant Professor in the Department of Physiology and Biophysics at the Univ. of Texas Medical Branch in Galveston, TX. In 1985, Eaton became a full professor and Director of the Department of Physiology and Biophysics Program at the Univ. of Texas Medical Branch in Galveston. In 1986, Eaton moved to the Emory Univ. Medical School in Atlanta, GA as Professor in the Department of Physiology; in 2002 Distinguished Professor. In 1995 he became Director of Graduate Studies in Cell and Developmental Biology at the Emory Univ. Graduate School of Arts and Sciences. In 2005, Eaton became Director of the Fellowships in Research and Science Teaching (FIRST) program. In 2008, he became Department Chair at Emory.

There are several aspects of Eaton's mentoring that make him stand out among a large number of APS members who are outstanding mentors. First, Eaton's mentoring is not limited to his trainees. He mentors colleagues and trainees from other labs and divisions in a collegial manner rather than a competitive one. Second, Eaton has an outstanding record of supporting women and underrepresented minorities. And third, Eaton mentors his proteges as individuals and not just as future scientists who will carry on his substantial scientific legacy in epithelial transport.

One of Eaton's most remarkable achievements has been his role in



Douglas Eaton (second from left) is presented the 2011 Schmidt-Nielsen Distinguished Mentor and Scientist Award by incoming President Joey P. Granger (left), Jane F. Reckelhoff second from right), Chair of the Women in Physiology Committee, and Marty Frank (right), APS Executive Director.

developing and expanding Emory's FIRST program—Fellowships in Research and Science Teaching - supported by funding from the Division of Minority Opportunities in Research (MORE) of the NIGMS. FIRST is a three year post-doctoral program that allows trainees to combine their bench research with sound training in science education, thus preparing them for a wider variety of careers. Eaton started the program with the late Robert Gunn, then Chair of Physiology at Emory, and in 2005 Eaton took over as the program director. The FIRST program, now in its eighth year, is the oldest of the MORE postdoctoral research-teaching fellowship programs and has the most fellows. Although only about half of the FIRST fellows are minorities, their participation in the program has increased the number of minority post-docs at Emory by 30%. The FIRST program also works very closely with several historically black colleges and universities in the Atlanta area, such as Morehouse and Spelman.

APS members are encouraged to nominate members for the 2012 Bodil Schmidt-Nielsen Award. For more information, see the APS website (http://www.the-aps.org/awards/society/schmidt-nielsen.htm). Application deadline is September 15, 2011.

2011 APS/NIDDK Minority Travel Fellows Attend EB in Washington, DC

The APS regularly awards Travel Fellowships for underrepresented minority scientists and students to attend APS scientific meetings with funds provided by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). These Fellowships provide funds for registration, transportation, meals, and lodging for travel to a meeting location, as well as complimentary meeting registration. Thirty Fellows attended the APS annual meeting, Experimental Biology (EB) in Washington, D.C. from April 9-13, 2011.

Fellows in the NIDDK Minority Travel program not only received financial support to attend these meetings, but were also provided professional guidance through pairings with APS members who served as "meeting mentors" to the Fellows for the duration of the conference. Thanks to the time and expertise offered by mentor volunteers, Fellows were able to expand their network of professional colleagues.

During EB, Fellows attended an orientation and reception on Saturday afternoon, a networking breakfast on Monday, and a luncheon on Wednesday. During the networking breakfast on Monday, students and meeting mentors had the opportunity to interact with one another again to exchange contact information, provide career-related answers or advice, and introduce students to other possible mentors in their particular research areas and/or geographical areas. This year, the networking breakfast was well-attended and productive. Wednesday's luncheon was another great opportunity for students and mentors to solidify their interaction and discuss or clarify concepts learned and acquired during the meeting. This year, the luncheon speaker was Robert Carter III, Assistant Director for Research & Technology and DASC within the Office of the Assistant Secretary of the Army for Acquisition, Logistics, and Technology at the Pentagon in Washington, DC. Major Carter's speech, entitled "Service and Mentoring for Future Physiologists," was well-received by the Fellows, Meeting Mentors, APS Council, Committee Members, and staff. Carter spoke about his professional trajectory and provided a great example of how good networkings can open doors into fascinating professional opportunities. Carter highlighted the fact that these relationships had been a source of mentorship, as well as great friendships for life. Carter's opportunities in life have been inspiring. In 2003, Carter was recognized as a National Role Model in biomedical research by Minority Access, Inc. and the NIH Office of Minority Health. In 2006, Major Carter was selected as the first US Army Medical Scientist assigned to France as part of our Department of Defense in an effort to promote international cooperation in military research, development, and acquisition. In addition to his duties as the Assistant Director for Research & Technology at the Pentagon, Major Carter serves as a White House Social Aide providing military support for White House ceremonies and social events as an extension of the President



Robert Carter III, Luncheon Speaker

and First Lady in their roles as official host and hostess of the United States. One of his greatest honors has been to be the first minority to serve in such role at the White House. His presentation finished with a nice picture of himself and President Obama. He candidly exhorted our students to start thinking early about their career opportunities and to use the opportunities provided by attending EB as networking platforms for their futures. The presentation will be available online later this summer.

The travel awards are open to gradu-



Gregory G. Germino, Deputy Director of NIDDK

ate students, postdoctoral students, and advanced undergraduate students from minority groups underrepresented in science (i.e., African Americans, Hispanics, Native Americans, and Pacific Islanders). Students must be US citizens or permanent residents. The specific intent of this award is to increase participation of pre- and postdoctoral minority students in the physiological sciences. For more information, contact Brooke Bruthers in the APS Education Office at 301-634-7132 or bbruthers@the-aps.org, or visit http://www.the-aps.org/education/ minority prog/stu_fellows/minority_tvl /ov mt.htm on the APS website.

APS Travel Fellows at Experimental Biology 2011:

Sherry Adesina, Emory Univ.; Timetria Bonds, Univ. of South Florida College of Medicine; Dee Dee Canionero, Tuskegee Univ.; Heidy Contreras, Univ. of Arizona; Leroy Brown Cooper, Univ.; Mark Cunningham, Univ. of Florida College of Medicine; Jussara do Carmo, Univ. of Mississippi Medical Center; Elise Donovan, Colorado State Univ.; Lincoln Edwards, Loma Linda Univ.; Teresa Foley, Univ. of Colorado; Jose Garcia, Univ. of Puerto Rico, Medical Sciences Campus; Mary Garcia-Cazarin, Univ. of Kentucky; Fernanda Giachini, Medial College of Georgia; Ebony Gilbreath, Michigan State Univ.; Jessica M. Ibarra, Univ. of Texas Health Science Center, San Erin Keen-Rhinehart. Antonio: Susquehanna Univ.; Annet Kirabo, Univ. of Florida College of Medicine; Santiago Lorenzo, Institute for Environmental Exercise and Medicine, Texas Health Presbyterian, Dallas; Alain Marcelin, Eastern Illinois Univ.; Jaume Padilla, Univ. of Missouri; Kristi Porter, Emory Univ.; Rhonda Prisby, Univ. of Texas, Arlington; Clintoria Richards Williams, Emory Univ./Atlanta VA Medical Center; Flavia Souza, Louisiana State Univ. Health Science Center; Keshari Thakali, Univ. of Arkansas Medical Sciences; Inimary Toby, Civil Aerospace Medical Institute: Kedra Wallace, Univ. of Mississippi Medical Center; Junie Warrington, Univ. of Oklahoma Health Sciences Center; Annie Whitaker, Louisiana State Univ. Health Science Center; and Brek Wilkins, Oklahoma State Univ. Center for Health Sciences.

APS Meeting Mentors at Experimental Biology 2011:

Adebowale Adebiyi, Univ. of Tennessee Health Science Center; Kashif Adil Ahmad, Northwestern Health Sciences Univ.; Gregory L. Brower, Univ. of South Carolina School of Medicine; William M. Chilian, Northeastern Ohio Univ. College of Medicine; Inyeong Choi, Emory Univ. School of Medicine; Estelle A. Cormet-Boyaka, Ohio State Univ.; Kevin J. Cummings, Dartmouth Medical School; Dipak K. Das, Univ. of Connecticut Health Center; Douglas C. Eaton, Emory Univ. School of Medince; Anthony M. Gerdes, New York College of Osteopathic Medicine; Ryan A. Harris, Medical College of Georgia; Stanley D. Hillyard, Univ. of Nevada, Las Vegas; Peter J. Horvath, SUNY, Buffalo; Cynthia Ann Jackson, Tuskegee Univ.; Jianhua Li. Pennsylvania State Univ. College of Medicine; Ida J. Llewellyn-Smith, Flinders Univ.; Nancy A. Lorr, Cornell Univ.; Patricia E. Molina, Louisiana State Univ. Health Science Center: Craig S. Nunemaker, Univ. of Virginia Health System; Rudy M. Ortiz, Univ. of California, Merced; Sylvia P. Poulos, The Coca Cola Company; Thomas C. Resta, Univ. of New Mexico Health Science Center; Roy L. Sutliff, Emory Univ./Atlanta VA Medical Center; Keshari Thakali, Univ. of Arkansas Thomas Medical Sciences; J. Thekkumkara, Texas Tech Univ. Health Science Center; Suresh C. Tyagi, Univ. of Louisville; Alice R. Villalobos, Texas A&M Univ.; and Monte S. Willis, Univ. of North Carolina.



EB 2011 Travel Fellows.

2010 Frontiers in Physiology Online Teacher Fellows Honored at EB 2011

Twenty-two Online Teacher (OT) Fellows in the new APS year-long 2010 Frontiers in Physiology Professional Development Fellowship were honored at a luncheon at EB 2011. Also honored were the Mentor/Instructors who were past teacher fellows: Charles Geach (Texas) and Margaret Shain (Indiana).

In attendance were APS Presidents and Council, Education Committee members, and the APS Executive Director and Education Office staff. Guests of honor included Barbara Alving, Director of the National Center for Research Resources (NCRR) at the NIH, L. Tony Beck, Program Officer of the NCRR's Science Education Program Award (SEPA), and Krishan Arora, a former SEPA Program Officer. Alving provided congratulatory remarks to the Online Teacher Fellows in the APS national program, as well as listened to their challenges in teaching and positive impact of the Frontiers program on their professional growth.

In 2010-2011, the Online Teacher Fellow program was completely delivered on a course management system, an adaption of the more comprehensive Frontiers fellowship program which traditionally has a summer research experience and intensive workshop week. The lessons, assignments, discussions, and activities in the OT fellowship program are structured in the APS Six Star Science framework for promoting excellence in science education. The Six Star Science principles address studentcentered learning, equity and diversity, technology in the classroom, authentic assessment on content and

pedagogy, updated content, and intentional reflection. As a major product of the fellowship, the OTs developed and refined their own inquiry-based, student-centered lab activity for the science classroom. The OTs concluded their fellowship year by experiencing this scientific meeting, attending the Physiology Understanding Week Training Session, and participating in the Physiology for Life Science Teachers and Students Workshop (see related article).

Frontiers in Physiology is sponsored by the APS, a SEPA grant from the NCRR and the National Institute of Diabetes and Digestive and Kidney Diseases at the NIH. For additional program information visit http:// www.frontiersinphys.org, or if you are interested in hosting a teacher next summer for the Research Teacher fellowship program, email Mel Limson in the APS Education Office (mlimson@the-aps.org).



The 2010 APS Frontiers in Physiology Online Teacher Fellows celebrate the culmination of their year-long online professional development program with leadership and staff from the APS and the NIH, including APS Presidents Peter Wagner and Gary Sieck, APS Executive Director Martin Frank, NCRR Director Barbara Alving, and SEPA Program Officers L. Tony Beck and Krishan Arora.

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Outreach Strategies and Hands-On K-12 Activities Shared at the PhUn Week Training Session with Posters at EB 2011

Sixteen poster presenters described strategies for outreach and hands-on physiology-related activities across primary, elementary, middle, and high school levels at the Physiology Understanding (PhUn) Week Training Session at EB 2011. The poster session format was introduced this year to foster a community of sharing best practices and grassroots outreach efforts by APS members who participate in the APS annual outreach program in the fall (http://www.PhUnWeek.org). In addition to classroom activities, topics included working with a teacher, recruiting and training of a volunteer team, and special community events. APS Education Committee member Michael Ryan organized and opened the poster session. PhUn Week 2010 participant Edlira Clark (Univ. of Alabama, Birmingham[UAB]) presented her team's work at the McWane Science Center in tribute to the vision of the late Dale Benos, the



APS member Jose Garcia Colon explains the impact of his team's physiology workshop with high school students in Puerto Rico.

former chair of the UAB physiology department and a past APS president. Approximately 60 attendees flowed through the 90-minute open poster session. The continental breakfast session was co-sponsored by the APS and ADInstruments, Inc., in support for the PhUn Week outreach program.

Table 1 (page 148) is a list of topics, poster titles, lead presenters, and institutions. Posters can be found in a collection at the APS Archive of Teaching Resources: http://www.aps.archive.org/ searchResultsAll.cfm?getcollectionID= 5078.



Sixteen posters on PhUn Week outreach events and activities were on display during the EB 2011 training session.

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Topic	Title	Lead Presenter and Institution
Working with a Teacher	Physiology Understanding (PhUn) Week: A K-12 Minority Outreach Fellow's Perspective on Working with Local Teachers	Jessica Ibarra Univ. of Texas, San Antonio, TX
Recruitment and Training	Volunteering to help run a PhUN Week activity for 2nd grade students	Erika Boesen Georgia Health Sciences Univ., Augusta
Special Community Events	Phun Week Activities at the Math and Science Fest in Tucson AZ: The Heart.	Scott Boitano Univ. of Arizona, Tucson
Primary School Level	Kids Have Heart	Amrit Chauhan Long Island Univ., New York
	Physiology Outreach to Elementary Students	Edlira Clark Univ. of Alabama, Birmingham
Elementary School Level	Hands-on PhUn week activities at Medway Elementary School	Lynn Hartzler Wright State Univ., Dayton, OH
	Air guitar increases heart rate to the same extent as running in place in sec- ond graders	Jennifer Sullivan Georgia Health Sciences Univ., Augusta
	The Effective Use of Stations to Teach Elementary Students in a Small Classroom Setting About Cardiopulmonary Physiology	Michael Ryan Univ. of Mississippi Medical Center
	4th Graders Write Their First Lab Report	Patricia Halpin Univ. of New Hampshire, Manchester
	A day with a Physiologist: The Lung-o- meter Experiment in Fifth Grade Science Classes	Mark Cunningham Univ. of Florida, Gainesville
Middle and Primary School Level	Heart Smart: Middle Schoolers Mentoring Primary Students	Margaret Shain Univ. of Louisville, KY
Middle School Level	Activities in Exercise and Physiology with Seventh Graders	Barbara Goodman Univ. of South Dakota, Vermillion
	Incorporating Powerlab into a Respiratory Physiology PhUn Week Activity for 7th Graders.	Aaron Bunker Morningside College, Sioux City, IA
High School Level	Muscle Blood Flow, Force, and Fatigue	John Young Univ. of Nevada, Las Vegas
	Impact of a Workshop on Physiological Sciences in Public High School Students in Puerto Rico.	Jose O. Garcia Univ. of Puerto Rico/Ponce School of Med.
Across Grade Levels	The Big Bad Wolf: Modified lungome- ter experiment	Annie Whitaker Louisiana State Univ. New Orleans

Table 1. Topics, Poster Titles, and Lead Presenters from PhUn Week Training Session.

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High School Students and Science Teachers Explore Physiology at EB 2011

Eighty high school teachers and students from the Washington, DC metropolitan area (DC, Virginia, Maryland, and Pennsylvania) and 21 national teachers in the 2010 Frontiers in Physiology Fellowship actively participated in the Physiology for Life Science Teachers and Students Workshop at EB 2011. The day-long workshop included a keynote presentation, a careers panel discussion, a tour of posters and exhibits, and hands-on physiology workshops for students and teachers.

Education Committee Chair, Thomas Pressley (Texas Tech Univ. Health Sciences Center) and Committee Member, Johanna Krontiris-Litowitz (Youngstown State Univ.) coordinated the day's events. As students and teachers arrived in the morning, they were engaged in interactive demonstrations by APS K-12 Outreach Fellow Heidy Contreras (Univ. of Arizona), representatives from ADInstruments who used cardiovascular monitoring equipment; and other APS members including Pressley, Krontiris-Litowitz, Kim Henige (California State Univ., Northridge); Jessica Ibarra (Univ. of Texas Health Sciences Center, San Antonio); and Mesia Moore Steed (Wake Forest Univ.).

The keynote talk, "Overcoming Heat Illness: Applying Laboratory Research to Saving Lives on the Battlefield," was given by APS member US Army Major Robert Carter III, a Science Advisor to the US Africa Command, Stuttgart, Germany and Adjunct Professor, Univ. of Maryland Univ. College (presentation available at: http://www.theaps.org/education/K12EBWorkshop.ht m). Carter presented his research and context for preventing heat-related illnesses whether in the battlefield, athletics, or daily life in general. For many



APS member U.S. Army Major Robert Carter, III, presents his research on preventing heat-related illnesses in the battlefield and athletics.

of the high school students and teachers, the presentation was their first



APS Education Committee Member Kim Henige engages students by monitoring pulse rate with PowerLab software and equipment from ADInstruments.



Students learn about muscle fatigue by using an anatomical heart stress ball.



Carter (left) is joined by APS members Mesia Moore Steed (center) and Jessica Ibarra (right) on a career panel that discussed their personal life and academic journeys with the high school student and teacher audience.



As a small group, students discuss to propose a model of the digestive system using common household and kitchen items.





Frontiers Fellowship Teachers test the effects of vis- An engaged student group learns about the process of

exposure to the work of a "real" scientist in the military.

Carter was then joined by APS members Ibarra and Steed, as a Career Panel for the students and teachers. The panel was moderated by APS Project Coordinator, Margaret Shain. The panelists shared their earliest experiences of conducting science and continuing on their personal career paths of overcoming challenges, enjoying accomplishments, valuing career mentorships from a wide array of advisors, and balancing work with family life. Afterwards, 19 APS members served as tour guides during lunch where they took teachers and students through the exhibits and posters, and shared a box lunch while discussing physiology careers.

The afternoon student session was led by Jessica Dominguez (Univ. of Colorado,

Denver School of Medicine) with Shain, and assisted by Contreras, Ibarra, Steed, and Tom Ecay (East Tennessee State Univ.); David Holtzclaw (Univ. of Nebraska Medical Center); Andrea Gwosdow (Gwosdow Associates); Keisa Mathis (Univ. of Mississippi Medical Center); and Carmen Troncosco-Bindero (Dartmouth Medical School).

Students used the "Junkvard Digestion" activity on modeling the digestive system with common household items, while their teachers and APS teacher fellows conducted the "Elvis Experiments" from the APS "Physiology of Fitness" unit to learn about factors affecting flow of liquids through tubing (radius, length, viscosity). The activity was led by TanYa Gwathmey (Wake Forest Univ.) and Barbara Goodman (Univ. of South

Dakota), and assisted by (Erin Keen-Rhinehart (Susquehenna Univ.) and Gregory Brower (Univ. of South Carolina School of Medicine), and Frontiers Mentor/Instructor Charles Geach (Texas).

As in the past, feedback from both teachers and students was very positive and students were especially excited to meet physiologists one-on-one during the lunch hour tour to the exhibit hall and scientific posters. In addition to the APS, donations for door prizes and resources were provided by ADInstruments, AAAS, the Howard Hughes Medical Institute, the National Association of Biology Teachers, and VWR Education. The APS Education Committee is planning to continue the workshop program for high school students and teachers at EB 2012 in San Diego, CA. 🔹



A student group builds and tests their digestion model.



Teachers actively model the circulatory system by following the consumption of oxygen through different organs of the body.

Membership

Nicola Abate Univ. of Texas, Galveston Sean Raphael Abram* Univ. of Mississippi Med. Ctr. Amir M.A. Abushouk* Nat'l Guard, Riyadh, Saudi Arabia **Bernardo V. Alvarez** Faculty of Med., La Plata, Argentina Zikiar V. Alvin* Loyola Univ., IL **Ciprian Rogdan Anea** Georgia Health Sci. Univ., Augusta Madelyn A. Baez Brandeis Univ., MA **Deborah L. Baines** St. George's Univ., UK Susan H. Barton Martinsburg VA Med. Ctr., WV Sarah N. Blythe Washington & Lee Univ., VA **Roman L. Bogorad** Koch Inst. for Integ. Cancer Res., MA **David Avery Brown** East Carolina Univ., NC **R. Michael Burger** Lehigh Univ., PA Lu Cai Univ. of Louisville, KY **Dulce E. Casarini** Federal Univ., Sao Paulo, Brazil **Min-Hwang Chang** Mayo Clinic, MN Se-Ho Chang Gyeongsang Nat'l Univ., Rep. of Korea Shaowei Chen Tulane Univ., LA Jordan L. Cocchiaro Univ. of North Carolina **Christos Constantinidis** Wake Forest Univ., NC **Peter Crawford** Washington Univ., MO **Neil Cronin** Griffith Univ., Australia **Claudia C. Dos Santos** St. Michael's Hosp. Toronto, Canada **Bogdan Dreher** Univ. of Sydney, Australia **Robert Gillette** Wilford Hall USAF Med. Ctr., TX Alberto J. G. Gonzalez Central Univ. of Venezuela **Miguel Luis Graciano** Univ. Fed. Luminense, Brazil **Curtis Omar Green** Univ. of the West Indies, Jamaica Jeffrey M. Grim Northeastern Univ., Boston, MA

New Regular Members

*transferred from student membership

Mitra J. Hartmann Northwestern Univ., IL **Mary M. Heinricher** Oregon Health & Science Univ. Guriit K. Khurana Hershev Cincinnati Children's Hosp., OH **Timothy Eric Holy** Washington Univ., MO Janice M. Huss City of Hope, Duarte, CA Alie Kanu Univ. of Tennessee, Memphis Midhun Korrapati NIH, Rockville, MD **Richard H. Kramer** Univ. of California, Berkeley Ji Li SUNY, Buffalo, NY Li Li Emory Univ., GA Wei Li Eye Inst. of Xiamen Univ., China **Cristina I. Linde** Univ. of Maryland, Baltimore **Howard L. Lippton** Jonah Healthcare, Shreveport, LA **Gang Liu** Univ. of Alabama, Birmingham Yonggang Ma Univ. of Texas HSC, San Antonio **Ronald Rene Marchelletta** Univ. of California, San Diego John Martin Mariadason Ludwig Inst. Cancer Res., Australia Melissa M. Markofski* Univ. of Texas Med. Branch, Galveston Timothy C. Marzullo Backyard Brains, W. Bloomfield, MI Shinya Masuda Singapore Inst. for Clinical Sci., Singapore **Wendy Foulds Mathes** Univ. of North Carolina Laura McCabe Michigan State Univ. **Steven J. McElroy** Vanderbilt Univ., TN Linda K. McLoon Univ. of Minnesota **Ferenc Mechler** Cornell Univ., NY **Geoffrey G. Murphy** Univ. of Michigan Akira Muto Nat'l Inst. of Genetics, Mishima, Japan Damodaran Narayanan* Univ. of Tennessee HSC, Memphis **Chih-Wen Ni*** Univ. of Massachusetts

Caroline Ojaimi New York Medical College Gary K. Owens Univ. of Virginia Anthony T. Paganini Michigan State Univ. Narayanan Parameswaran Michigan State Univ. Alex Rafacho Univ. Fed. De Santa, Catarina, Brazil **Thomas Rich** Univ. of South Alabama Lynette Kay Rogers Children's Hosp./Ohio State Univ. **Chris B. Schaffer** Cornell Univ., NY **Vivek Pratap Singh** Univ. of Cincinnati, OH Dangjai Souvannakitti Phramongkutklao Coll. Med., Bangkok, Thailand Sabine Steffens Cardiology Univ. Hosp., Geneva, Switzerland **Gelsy Torres-Oviedo** Johns Hopkins Sch. of Med., MD Alejandro T. Valenzuela Univ. Juarez Del Estado De Durango, Mexico Ashley E. Walker* Cedars-Sinai Med. Ctr., Los Angeles, CA Yanlin Wang Baylor College of Medicine, TX Sheng Wang Univ. of Virginia **Carl White** Rosalind Franklin Univ., Chicago, IL Jeroen PHM Van Den Wijngaard Univ. of Amsterdam, Netherlands Joern-Hendrik Weitkamp Vanderbilt Univ., Nashville, TN **Christopher S. Williams** Vanderbilt Univ., Nashville, TN Jerry M. Wright Johns Hopkins, Baltimore, MD **Shaoping Wu** Univ. of Rochester, NY **Tarig Eltoum Yagoub** Al Zaiem Al Azhari Univ., Khartoum North, Sudan Yigun Zhou Emory Univ., GA **Teresa Zimmers** Univ. of Miami, FL Akeel Abdul Monim Hassan Zwain Univ. of Kufa, Jufa Pob, Iraq

Membership

New Graduate Student Members

Leanna Catherine Cruikshank Univ. of Alberta, Canada Luther Gill Univ. of Florida Matt Heesch Univ. of Nebraska, Omaha Delphine Huser Univ. of Lausanne, Switzerland Zafar Iqbal Univ. of Agriculture, Pakistan Seung Kyum Kim Texas A&M Univ. Marcus Michael Lawrence Appalachian State Univ., NC Allyson Catherine Marshall Wake Forest Baptist Med. Ctr., NC Elizabeth M. Martin Univ. of California, Davis Bliss EH O'Bryhim Univ. of Kansas Martin Picard McGill Univ., Canada Mona Shawky Ain Shams Univ., Egypt Cassandra Steiner Univ. of Nebraska Med. Ctr. Dragos M. Vasilescu Univ. of Iowa Hospital and Clinics Bryan Anthony Wilson Wake Forest Univ., NC

New Undergraduate Student Members

Andrew Abayan Univ. of California, Los Angeles Nicholas M. Clute-Reinig Pomona College, CA Drew Colson Univ. of Mississippi Med. Ctr. Julia H. Crowley College of William and Mary, VA Jeffrey Engle Univ. of Iowa Jennifer Frielle Gettysburg College, PA Wilson Hsieh Texas A&M Univ. Kaitlyn Kennard Ursinus College, NJ Tyler Lacy Duke Univ., NC Kevin McPherson Univ. of Nevada, Reno John Moats Univ. of North Carolina, Charlotte Bonnie Kaufmann Patchen Williams College, MA Irina Popovich Univ. of California, Merced Darcy Jo Porter Univ. of Kentucky Mehria Sayad-Shah Univ. of California, San Diego Casey Toombs Univ. of New England, ME

New Affiliate Members

Kenneth S. Saladin Georgia College and State Univ. Joan E. Zuckerman Long Beach City College, CA

Recently Deceased Members

David R. Lincicome Roxbury, CT Thomas C. Lloyd Indianapolis, IN Irving Lyon Los Angeles, CA Noble S.R. Maluf Cleveland, OH Robert E. McCaa Brandon, MS Alberto L.G. Meli Firenze, Italy John S. Meyer Houston, TX Maurice W. Meyer Brighton, CO Thomas W. Moir Willoughby, OH Peter J. Morgane Kennebunkport, ME

Ralph A. Nelson Urbana, IL Jack H. Oppenheimer Minneapolis, MN Dali J. Patel Washington, DC **Elliot Rapaport** San Francisco, CA **Monica Reynolds** Philadelphia, PA **Philip R. Steinmetz** Farmington, CT William C. Ullrick Boston, MA **Robert J. White** Cleveland, OH **Carole A. Williams** Johnson City, TN

Jason Lapres Lone Star College, TX

Clara M. Ambrus Buffalo, NY **Arthur L. Black** Davis, CA **Sidney Cassin** Gainesville, FL John S. Cook Barnstable. MA Adam B. Denison Winston Salem, NC **Roland H. Ingram** Atlanta, GA **David R. Jones** Vancouver, Canada Abbott T. Kissen Osprey, FL **Carl Kupfer** Rockville, MD Leonard J. Lerner Trenton, NJ

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APS Participates in the 25th Annual HAPS Conference

Over 400 Anatomy and Physiology educators from colleges across the United States and Canada gathered for the 25th Annual Human Anatomy and Physiology Society (HAPS) Conference. This year's conference was held in Victoria, British Columbia from May 28-30, 2011.

APS was pleased to sponsor the opening Update Seminar Speaker for the conference, APS member Virginia L. Brooks, Oregon Health Sciences Univ. Brooks' seminar, entitled "Brain Insulin: A Sweet Deal for Normal Baroreflex Function," was very wellattended and deemed an excellent and informative talk by all HAPS attendees. Brooks' talk can be found in the APS Archive of Teaching Resources (http://www.apsarchive.org).

APS also exhibited at the meeting



Virginia L. Brooks

and shared information about its Archive of Teaching Resources with attendees of the Cyberlearning in Community Colleges (C3) PreConference Workshop, held by HAPS member Sam Donovan. APS staff member Miranda Byse, Archive and Project Coordinator, spoke with workshop attendees about the APS Archive and its collaboration with five scientific societies, including HAPS, to create Communities of Practice for Physiology and Anatomy educators.

The HAPS Conference was followed by the HAPS Institute (HAPS-I), a professional continuing education program for undergraduate Anatomy and Physiology instructors. APS member Robert Carroll, East Carolina Univ., led a course in Advanced Cardiovascular Physiology.

APS is also pleased to announce that APS member Dee Silverthorn, Univ. of Texas at Austin, was recently announced as the 2011 HAPS President-Elect. �



"Alligator Eyes," a study on peripheral vision by Rodrigo Sanchez was awarded best physiology project by APS member Masako Isokawa. Rodrigo built a peripheral vision test board.

APS Launches New Online Professional Skills Training Course

APS is pleased to announce that it has just finished holding its first online Professional Skills Training Course on "Interviewing for an Academic Position." Five graduate students, postdoctoral fellows, and early career professionals participated in the course in order to learn about the academic job search, the basics of preparing application materials, preparing for and conducting a successful interview and job talk, and negotiation a job offer.

During this 10-day course students were required to complete readings, turn in exercises, view audio/ PowerPoint presentations, post comments and critiques of mock teaching and research statements, as well as take quizzes on what they learned in each lesson. Participants worked together with two instructors in order to better enable them to receive individualized training and feedback.

Trainees participating in the course were: Sujoy Bhattacharya, Univ. of Tennessee Health Science Center; Zhengrong Guan, Georgia Health Sciences Univ.; Jesus Lopez-Guisa, Seattle Children's Research Institute; Louis Mattar, Univ. of Western Ontario; and Qi Xi, Univ. of Tennessee Health.

APS members serving as instructors

for the course were: Johanna Krontiris-Litowitz, Youngstown State Univ. and Thomas Pressley, Texas Tech Univ. Health Sciences Center.

Participants unanimously agreed that they would "recommend" or "strongly recommend" this course to other colleagues. One participant commented, "The course is excellent. You can get a lot of feedback, comments, and advice from instructors. It helps you with all that you need for a successful job interview." Another participant commented, "It was a great resource that helped to prepare me for the job search, application, interview, and negotiations."

APS will be offering future "Interviewing for an Academic Position" courses. For more information, e-mail education@the-aps.org.

Currently, APS is running the sixweek online course: "Writing and Reviewing for Scientific Journals." The next APS Professional Skills Training Course will be the four-day live course: "Writing and Reviewing for Scientific Journals." The live course will be held January 12-15, 2012 in Lake Buena Vista, FL. For more information, e-mail education@the-aps.org. *

APS Presents Awards to Outstanding High School Students at the 62nd Annual International Science and Engineering Fair

The 62nd Annual Intel International Science and Engineering Fair (ISEF), presented by Intel Corporation, was held in Los Angeles, California, May 8-13, 2011. More than 1,500 students from 65 countries, regions, and territories, including for the first time France, Tunisia, United Arab Emirates and Macao SAR of the People's Republic of China, were selected from 443 affiliate science fairs to compete in the world's largest pre-college science competition. During the two days of awards ceremonies, over \$4 million in scholarships, cash prizes, and awards were distributed in categories ranging from behavioral science to engineering and medicine. More than 400 Intel International Science and Engineering Fair participants received scholarships and prizes for their work. Prizes included scholarships, cash awards, scientific field trips to foreign countries and the grand prizes: a \$75,000 award (Gordon E. Moore Award) and two \$50,000 scholarships from Intel. Grand awards included 17 "Best of Category" winners who each received a \$5.000 Intel scholarship and \$1,000 to their schools and affiliated fairs. More than 500 additional awards were presented by scientific, professional and educational organizations and include scholarships, summer internships, book and equipment grants and scientific field trips.

For the 19th year, the APS presented four Special Awards in the form of cash prizes, certificates, t-shirts, and oneyear subscriptions to APS publications for the best projects in the physiological sciences. This year's APS judging team included Erin Keen-Rhinehart of Susquehanna Univ., Chris Woodman from Texas A&M Univ. and Greg Brower of the Univ. of South Carolina. Local members, Kenneth Philipson from UCLA, Marci Raney from Occidental College, as well as Erik Kolb, Barbara Driscoll and Silvana Constantinescu from the Univ. of Southern California, also helped with the final judging, and their assistance was greatly appreciated.

The convention center was packed

with posters displaying projects ranging from physiological based research done at home or at universities, to complex robotics complete with computer driven controls. Students spent two days being interviewed by judges representing a variety of disciplines, and participated in a panel discussion featuring several Nobel Laureates. As judges, we previewed almost 60 projects to select 22 that best fit the category of "physiology." We interviewed each of these finalists to evaluate their involvement in the project and to determine their understanding of the science and experimental design behind the project. After two days of judging, we chose the following projects to receive APS awards for excellence in physiological research.

Receiving \$1,500 and first place was Chengzhen Li Dai, 17, a junior at Detroit Country Day School in Beverly Hills, MI for his project entitled "Glial Contributions to Circadian Timekeeping in the Drosophila Brain." Chengzhen demonstrated tremendous initiative and perseverance in completing his project. Chengzhen also won a second place Grand Award in the Animal Sciences section for \$1,500.

Second place and a \$1,000 award went to Angela Zhang, 16, a junior at Monta Vista High School in Cupertino, CA for her project entitled "New Smart Weapons: Theronostics – A Novel NanoMedicine Approach to Combat Cancer." Angela also won a 1st place best in category Grand Award in the Medicine and Health section for \$3,000, as well as two special awards, one a 1st place award from the American Association of Pharmaceutical Scientists for \$2,000 and the other a full tuition scholarship from Drexel Univ. worth approximately \$150,000.

Vaishnavi Lakshminarasimha Rao, 15, a sophomore at Canyon Crest Academy in San Diego, CA was awarded a third place award (\$500) for her project entitled "Regulation of Nitric Oxide Expression as a Form of Neurotransmitter Plasticity." Vaishnavi also won a 2nd place Grand Award in the Biochemistry section for \$1,500, as well as two special awards, one a 3rd place award from the American Association for Clinical Chemistry for \$500 and the other an \$8,000 tuition scholarship from the Office of Naval Research.

The APS Exceptional Science Award (\$500) was given to Haylee Elizabeth Jones, 17, a junior at SUCCESS Academy in St. George, UT for her project entitled "Effects of Exercises on a Diabetes Mellitus Type 1."

These projects are a small example of the many outstanding projects we had the opportunity to judge. The finalists at the fair were outstanding high school students and were extremely knowledgeable and enthusiastic about their projects. The Intel ISEF is a forum of the brightest young scientists and all of us were honored to represent the APS at this forum. \checkmark

> Erin Keen-Rhinehart Susquehanna Univ. APS Education Committee



APS member Chris Woodman with ISEF 2011 APS Awardees: Vaishnavi Rao, Chengzhen Dai, Angela Zhang and Haylee Jones (left to right).

APS Science Fair Award Selections

Student Awardee	Student's School	Title of Project	Location of Science Fair	APS member serving as Judge	Institution
James Constantin	Pittsburgh Central Catholic High School, Pittsburgh, PA	"Whey Protein Influence on Muscle Stem Cell Development"	Pennsylvania Junior Academy of Sciences region 7 Science Fair	Alan Sved	Univ. of Pittsburgh
Alanna Bram	John Adams, Rochester, MN	"Regulation of Skin Temperature Using Biofeedback"	Rochester Regional Science Fair	Arthur Beyder	Mayo Clinic
Aishwarya Jatarajan	Haynes Academy for Advanced Studies	"The Effect of Caffeine on Vital Signs of the Human Body"	Greater New Orleans Science and Engineering Fair	Annie Whitaker	Louisiana State Univ. Health Science Center
Patrick Michael	Paul Laurence Dunbar High School	"Keratin Expression of Primary Mouse Keratinocytes in Response to Forskolin"	Fayette County Public Schools District Science Fair	Esther Dupont- Versteegden	Univ. of Kentucky
Seth Dalton	Northwoods Catholic School, Spring, TX	"Sizing up the Human Body"	Northwoods Catholic School Science Fair	Norman Weisbrodt	Univ. of Texas Medical School at Houston
Nidhi Gandhi	Little Rock Central High School	"Improving the Effectiveness of Anti-cancer Drugs with Cell Modulators"	Central Arkansas Regional Science Fair	Parimal Chowdhury	Univ. of Arkansas for Medical Science
Rodrigo Sanchez	Episcopal Day School , Brownsville, TX	"Alligator Eyes"	Episcopal Day School Science Fair	Masako Isokawa	Univ. of Texas Brownsville
Payton Lock	Pekin Packwood Middle School, Packwood, IA	"A Time to Remember"	52nd Eastern Iowa Science and Engineering Fair	Thomas Schmidt	Univ. of Iowa
Anthony Hsieh	Hawken School	"The Contribution of Smooth Muscle Notch Signaling in Vascular Reactivity"	Northeastern Ohio Science and Engineering Fair	Julie Rennison	Cleveland Clinic
Max Wasserman	Millburn High School	"Effects of Myostatin Inhibition in the Absence of Testosterone on Limb and LA/BC Muscle Growth"	New Jersey Regional Science Fair	Sue Shapes	Rutgers Univ.
Sage Tanguay	Bath County High School/Jackson River Governor's School , Clifton Forge, VA	"The Physiology of Pranayama"	Western Virginia Science fair	Helena Carvalho	Virginia Tech Carilion School of Medicine

APS Science Fair Award Selections

Student Awardee	Student's School	Title of Project	Location of Science Fair	APS member serving as Judge	Institution
Brian Messina	St. Angela Merici Elementary School	"Shrimp Matters: The Response of Brine Shrimp to an Environmental Change in Oxygen Levels"	Northeastern Ohio Science and Engineering Fair	Cassandra Talerico	Cleveland Clinic
Karen Cheng	Millard North High School, Omaha, NE	"What Factors Influence the Susceptibility of Students to Noise-induced Hearing Loss Due to Ipods?"	Nebraska Junior Academy of Sciences	Barbara Engebretsen	Wayne State College
Aaron Matjasic	General Wayne Elementary School	"Pollution in our Local Environment"	General Wayne Elementary School Science Fair	Christine Schnackenberg	GlaxoSmithKline
Vinayak Gupta	Carmal High School	"Hypoxic Pulmonary Hypertesion (HPH)"	East Central Indiana Regional Science Fair	Najma Javed	Ball State Univ.
Tina Ta	Presentation of Mary Academy	"Power to Fertilizers"	Presentation of Mary Academy 2010 Science Fair	David Wagner	Metabolic Solutions, Inc.
Aubreylyn Zazyczny	Holicong Middle School	"Caffeine and Vitamin B12's Affect on Heart Rate"	Bucks County Science Research Competition	David Crandall	Doylestown, PA
Ha-Thi Nguyen	Mission Bay Montessori Academy Science Fair	"Mechanics of Birds in Flight"	Mission Bay Montessori Academy Science Fair	Alan Hargen	Univ. of California, San Diego
Michael Booze	Trotwood- Madison High School	"Crossed Up"	Trotwood- Madison High School Science Fair	Lynn Hartzler	Wright State Univ.
Grace Warnecke	Glandorf Elementary	"Accommodation: 'Near to Far' vs 'Far to Near'"	OAS West Central District Science Fair	Nancy Woodley	Ohio Northern Univ.



Ha-Thi Nguyen presented her project, "Mechanics of Birds in Flight."



Karen Cheng was awarded the best physiology project for her research on, "What factors Influence the Susceptibility of Students to Noise-induced Hearing Loss Due to iPods?"



Nidhi Gandhi presented her project at the Central Arkansas Regional Science Fair titled, "Improving the Effectiveness of Anti-Cancer Drugs with Cell Modulators." The award was presented by APS member Parimal Chowdhury.



APS member Norman Weisbrodt presented Seth Dalton with an award for his research titled, "Sizing up the Human Body."



At the Pennsylvania Junior Academy of Science, James Constantin was awarded the best physiology project by APS member Alan F. Sved.



Lindsey Poole of the Maclay School in Tallahassee, FL was awarded the best physiology project by APS member Bryant Chase.



"Alligator Eyes," a study on peripheral vision by Rodrigo Sanchez was awarded best physiology project by APS member Masako Isokawa. . Rodrigo built a peripheral vision test board.



Sage Tanquay was awarded the best physiology project at the Metro Richmond Science Fair by APS member Helena Carvalho.



Vinayak Gupta was awarded the best physiology project by APS member Najma Javed for his project "Hypoxic Pulmonary Hypertension (HPH)."

Science Policy

Great Ape Protection and Cost Savings Act Fails to Protect Apes or Save Costs

In June APS President Joey Granger sent letters asking Members of Congress to oppose the Great Ape Protection and Cost Savings Act (GAPACSA). The bill, known as H.R. 1513 in the House of Representatives and S. 810 in the Senate, would institute a broad ban on "invasive" research involving non-human hominids or gibbons. The bill uses such a broad definition of "invasive" research that animals could not be removed from their social group for research, and even collecting blood tissue outside of a veterinary check-up would be prohibited. The only affected species customarily used in biomedical research is the chimpanzee, though others may be involved in research at zoos.

Granger emphasized in his letter the multiple layers of oversight that currently protect research animals—especially chimpanzees—and outlined the importance of the research at risk. The letter went on to disprove the "cost saving" claims of the bill and to ask Congress to postpone action until an Institute of Medicine (IOM) panel currently in the process of evaluating the scientific value of chimpanzee research has released its findings.

Supporters of GAPACSA claim that retiring chimpanzees to sanctuaries would save the government money, but data released by NIH in June show that the cost per day of maintaining a chimp at the Chimp Haven Sanctuary for animals no longer needed in research is equivalent to the average cost of maintaining them in government research facilities.

Meanwhile, the IOM has assembled a blue ribbon panel that will undertake "an in-depth analysis of the current and future need for chimpanzee use in biomedical research." Its findings are expected by the end of 2011.

Chimpanzee research has been crucial to a number of historical breakthroughs, including vaccines for hepatitis A and B as well as the development of monoclonal antibodies. In a recent editorial, *Nature* asserted that the "historical value of the chimpanzee as a disease model is indisputable." Today, chimps are the only model for chronic hepatitis C, a leading cause of liver cancer. Additionally, they are valuable for studies aimed at protecting wild apes: an Ebola vaccine study conducted in chimps earlier this year has already led to the use of that vaccine in wild gorillas. This is a significant breakthrough since Ebola has already reduced wild gorilla populations by one third.

APS Members Participate in Advocacy Workshop

The APS Science Policy Committee (SPC) sponsored a symposium entitled "How to be an Advocate: A Workshop for Early Career Scientists" at Experimental Biology 2011 in Washington, DC. Presiding over the session were former SPC chairs JR Haywood and Bill Talman. The featured speaker was Jennifer Zeitzer, FASEB's Director of Legislative Zeitzer's Relations. presentation reviewed why it is more important than ever for scientists to be involved in advocacy as we face a new and challenging political environment that is focused on slashing domestic spending. Zeitzer provided guidance on developing and delivering an effective personalized message using data to support arguments in favor of research. Zeitzer also gave several recommendations on maintaining relationships with elected officials. The presentation, entitled "Scientists and the New Congress: Using Your Voice to Advocate for Research," is available on the APS website (http://www.the-aps.org/pa/advocate/EB2011Slides.pdf) and provides links to many important resources.

Following Zeitzer's presentation, Sarah Clayton spoke briefly about her experiences going to Capitol Hill as a graduate student and member of the APS Animal Care and Experimentation Committee. Attendees then broke into small groups and worked with members of the SPC on a Congressional visit role-playing exercise. This allowed them to practice what they would say in a meeting with a Member of Congress and learn what types of responses they could expect from Congressional staff.

For more information on becoming an advocate for scientific research, see the APS Science Policy website. (http://www.the-aps.org/pa).

NIH Reconsiders New Lab Animal Care *Guide*

The future of the 8th edition of the *Guide for the Care and Use of Laboratory Animals* [http://grants.nih.gov/grants/olaw/Guide-for-the-Careand-Use-of-Laboratory-Animals.pdf] was cast into doubt when NIH announced [http://grants.nih.gov/grants/guide/notice-files/NOT-OD-11-082.html] on June 9, 2011 that its implementation plan was on hold pending the evaluation of comments.

NIH's announcement came two weeks after the end of a public comment period on whether to adopt the new Guide as the basis for evaluating grantee institutions' animal care and use programs. In the latest notice, the Office of Laboratory Animal Welfare (OLAW) said it was conducting "a thoughtful and in-depth analysis" of comments received. Although it had originally proposed adopting the new Guide effective March 31, 2012, OLAW indicated that a new timetable would be needed, and that it might also issue one or more position statements on topics in the Guide that would also be subject to public comment.

The initial request for public input [http://grants.nih.gov/grants/guide/noti ce-files/NOT-OD-11-042.html] was published February 24, 2011 and allowed 30 days for the submission of comments. OLAW's plan was for a oneyear transition period with the new Guide going into effect March 31, 2012. By that date institutions, were expected to have completed a semi-annual inspection using the requirements of the 8th edition. They were also expected to have put into place "reasonable and specific plans and schedules for corrections of deficiencies where appropriate." The comment deadline for the February 24 notice was later extended to a total of 90 days.

Although many organizations, including the APS, initially assumed that OLAW would take an outcome-oriented view in implementing the new Guide, in early April the National Association for Biomedical Research (NABR) released a preliminary analysis pointing out that in recent years OLAW has applied a more rigid, engineering approach to key aspects of the 7th edition of the Guide. This was seen as a problematic approach in light of some changes in the new Guide, such as the greater space requirements for

Science Policy

breeding rodents. If OLAW implements these elements of the new *Guide* as engineering standards, it would either require massive and redundant documentation in order to continue standard rodent breeding protocols or else enormous investments in new caging systems.

Recognizing that the new *Guide* was in fact written to be used in the context of performance-based standards, APS sought to strike a balance in its comments [http://www.the-aps.org/pa/ resources/archives/comments/GuideRe sponse.pdf]. The APS noted the inclusion of "valuable updates to many standards that laboratory animal programs use to ensure that research proceeds with due consideration for animal welfare" and urged that the document be treated as performance-based standards as its authors intended. At the same time, APS also cautioned that if the *Guide* was going to be implemented as if it were a regulation, it ought to undergo regulatory review.

As of late June, the Association for Assessment and Accreditation of Laboratory Animal Care, International (AAALAC) had neither revised nor finalized its plans to begin using the new *Guide* as an accreditation standard [http://www.aaalac.org/about/ guidelines.cfm] for site visits beginning during fall 2011. In February, AAALAC asked the research community to provide comments on six position statements explaining how its Council on Accreditation would interpret the 8th edition of the Guide. These position statements dealt with contentious issues including cage size requirements, social housing, and the role of the attending veterinarian. Despite its announced intention to begin using the new Guide in the fall, AAALAC had not yet made the final versions of the position statements available, likely because NIH's decisions on implementation could affect its course of action. The delay in issuing position statements poses a problem for institutions with AAALAC site inspections scheduled this fall since they do not yet have the final word on AAALAC's expectations. 🔹





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People & Places____

Bond Named Dean

APS Member Meredith Bond has been named as dean of Cleveland State Univ.'s (CSU) College of Sciences and Health Professions. Since 2003, Bond has chaired the Department of Physiology at the Univ. of Maryland's School of Medicine. She earlier was at the Cleveland Clinic and served on the faculty of Case Western Reserve Univ. Cleveland State and NEOMED (formerly NEOUCOM) recently announced a partnership to develop a medical school track at CSU that will produce primary care physicians trained specifically for urban communities.

Benoit Named Dean

Joseph H. Benoit, dean of the Univ. of North Dakota's graduate school, has been named the new president of Mount Marty College in Yankton, SD. Benoit joined UND in 2001 as both dean and professor of pharmacology, physiology and therapeutics.

Gallagher Named Associate Dean for Graduate Studies

Patricia J. Gallagher, professor of cellular and integrative physiology, has been named associate dean for graduate studies at the Indiana Univ. School of Medicine. Gallagher, who joined the School of Medicine faculty in 1992, succeeds Simon Rhodes, who has been named dean of the IUPUI School of Science. Gallagher's appointment as associate dean for graduate studies was effective July 1.

Lisberger Named Department Chair

APS Member Stephen G. Lisberger has been named chair of the Department of Neurobiology at Duke University School of Medicine. Dr. Lisberger is currently an investigator of the Howard Hughes Medical Institute and a professor of Physiology at the Univ. of California at San Francisco.

Lindsea Booth has moved to the Howard Florey Institute at the Univ. of Melbourne, Victoria, Australia. Prior to this move Dr. Booth was in the Department of Physiology at the Univ. of Auckland, New Zealand.

Anna Csiszar is currently an Assistant Professor at the Univ. of Oklahoma, Department of Geriatric Medicine, Oklahoma City, OK. Previously, Csiszar was at New York Medical College, Department of Physiology, Valahalla, NY.

Jonathan A. Dranoff is Professor of Medicine, Director Division of Gastroenterology and Hepatology at the Univ. of Arkansas, Little Rock, AR. Prior to this move Dranoff was Assistant Professor of the Department of Internal Medicine, Yale Univ., New Haven, CT.

Gary James Hodges is now Assistant Professor in the Department of Kinesiology at the Univ. of Alabama, Birmingham, AL. Prior to this position Hodges was Senior Postdoc Fellow in the School of Kinesiology at the Univ. of Western Ontario, London, ON Canada.

Patricia Denise Hurn is now Associate Vice Chancellor of Health Research in the Office of Health Affairs at the Univ. of Texas System, Austin, TX. Prior to this move, Hurn was Professor and Vice Chairman in the Department of Anesthesiology & Peri-Operative Medicine at Oregon Health Sciences Univ., Portland, OR. Gary Iwamoto is now in the Department of Cell Biology at the Univ. of Texas Southwestern Medical Center, Dallas, TX. Prior to this move he was Assistant Professor in the Department of Veterinary Biosciences at the Univ. of Illinois, Urbana, IL.

So Yeong Lee has moved to the Lab of Veterinary Pharmacology at the College of Veterinary Medicine, Seoul, South Korea. Prior to the move, Lee was Assistant Professor of Veterinary Pharmacology at Seoul National Univ., Seoul, South Korea.

Ayako Makino is Assistant Professor of the Department of Medicine at Univ. of Illinois in Chicago, IL. Prior to thismove, Makino was in the Department of Medicine at Univ. of California, San Diego, La Jolla, CA.

Leonard G. Meggs is presently Chairman-Nephrology, at Ochster Health Foundation, Department of Medicine, New Orleans, LA. Prior to this position, Meggs was Professor of Medicine at Univ. of Medicine and Dentistry of New Jersey Medical School, Newark, NJ.

Kelly R. Pitts is now Director, Research & Development at Corgenix Medical Corporation, Broomfield, CO. Prior to this move, Pitts was Research Associate in the Analytical Sciences of Amgen Colorado, Boulder, CO.

Sasanka Ramanadham is now Associate Professor in the Shelby Biomedical Research at the Univ. of Alabama, Birmingham, AL. Prior to this move, Ramandham was Associate Professor in the Department of Medicine at Washington Univ. School of Medicine, St. Louis, MO.

Makhail Sovershaev is now in the Department of Clinical Medicine at the Univ. of Tromsoe, Norway. Prior to this move, Sovershaev was a Postdoctoral Fellow in the Department of Medicine at the Univ. Hospital of North Norway, Tromso, Norway. *

Senior Physiologists' News

The Physiologist Vol. 54, No. 4, 2011

Letters to Franklyn Knox

Howard G. Knuttgen writes: Thank you for your letter and your interest in what some of us old duffers are doing!

"In my state of semi-retirement, I hold an appointment as Senior Lecturer in Physical Medicine and Rehabilitation at the Harvard Medical School. I maintain an office at the Spaulding Rehabilitation Hospital in Boston. In addition to activities in the Department, I am able to continue my volunteer work in two capacities for the International Olympic Committee in Lausanne, Switzerland. Because of my interest in sports medicine and the sport sciences, I serve as Coordinator of Scientific Publications for the IOC Medical Commission. In this capacity for the past 20 years, I have had the privilege of producing 17 volumes in a series entitled, 'Encyclopedia of Sports Medicine' (Wiley-Blackwell), each volume dealing with a different broad topic. We also produce a series entitled 'Handbooks of Sports Medicine and Science' (Wiley-Blackwell) that deal in very practical terms with the various sports of the Olympic Summer and Winter Games as well as general topics within sports medicine/science.

"The second appointment with the IOC is as Scientific Advisor to The Olympic Library. As an integral part of The Olympic Museum in Lausanne, the Library holds volumes and journals pertaining to all aspects of the Olympic Movement: historical. economic. sociologic, educational, and medical/scientific. The Library houses the most complete collection of sports medicine and sports science texts, as well as sports medicine and sports science journals in a number of languages, especially French, English, German, Spanish, and Italian.

"My wife and I recently celebrated our 50th anniversary, and we reside in Carlisle, MA."

Arthur Leon writes: "I'm delighted to respond to your request for an autobiographical statement which follows.

"Arthur S. Leon, a member of the APS since 1962, celebrated his 80th birthday in April 2011. Currently, he is the first Henry L. Taylor Professor and the Director of the Laboratory of Physiological Hygiene and Exercise Science (originally founded by Ancel Keys) at the Univ. of Minnesota. He received his BS in Chemistry with High Honors from the Univ. of Florida (1952) and his MS in Biochemistry (1954) and MD (1957) from the Univ. of Wisconsin. Since 1973, he has been a professor at the Univ. of Minnesota. His research has focused on the contribution of exercise to reducing risk of cardiovascular disease. He began his research in this area in animal models, while on active duty as a medical officer 1961-1964 working with Donald E. Gregg, and Colin Bloor at the Walter Reed Army Medical Center. His

Current Calls for Paners

research at the Univ. of Minnesota has included observational epidemiologic studies on the association of regular leisure time physical activity on risk of CHD in high risk male participants in the Multiple Risk Factor Intervention Trial (MRFIT), and has performed an extensive number of exercise training studies funded by NIH and AHA on the effects of exercise training on risk factors (esp. blood lipids) for CVD. He was one of the PIs in the HERITAGE Family Study (HFS). The HFS, 1992-2004 was at the time the largest investigator (ROI) initiated exercise training studies ever funded by NHLBI. The purpose of the HFS was to determine the role that heritability plays in the variability of exercise training response of risk factors for CHD and diabetes, and VO 2 max, and to identify candidate genes involved.

"He currently is a co-investigator on a major five year (2008-2013) study comparing the effects of supervised arm cycle ergometer vs. treadmill walking exercise program on improving walking capability of patients with claudication due to peripheral artery disease and to identify cardiovascular mechanisms involved in the improvements. Dr. Leon has over 300 publications in peer reviewed journals. He retired from the US Army Reserve as a Colonel in the Medical Corp in 1991 after 38 years of service, following his last active duty assignment for Desert Storm." 🔹

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Positions Available

Postdoctoral Position

Postdoctoral Fellow Position in Oxygen-Modulation of Growth and Size in Drosophila, School of Life Sciences, Arizona State Univ.: A postdoctoral position is available as part of a research program examining the effects of atmospheric oxygen levels on the growth and size of Drosophila melanogaster in Jon Harrison's lab at Arizona State Univ.. A general review of the research area is available in Harrison, J.F. and G.G. Haddad. 2011. Effects of oxygen on growth and size: synthesis of molecular, organismal and evolutionary studies with Drosophila melanogaster. Annual Review of Physiology 73:13.1-13.9. The specific research goals within this area will be defined together with the PDF, but the research likely will include techniques such as confocal microscopy, RNAi, assessment of gene expression, biochemical analyses on micro-samples, PO2 micro-electrode use and selection studies. Experience with Drosophila molecular and/or evolutionary technique would be beneficial but is not required. The position will be awarded for one year, with the possibility of renewal for at least one more additional year. To apply, please Email a single pdf file containing a cover letter, a curriculum vitae, a statement of research interests, representative publications, and a list of references to the following address: j.harrison@asu.edu. Review of applicants will begin immediately and will continue until the position is filled. A background check is required for employment. Arizona State Univ. is an equal opportunity/affirmative action employer committed to excellence through diversity. Women and minorities are encouraged to apply.

Faculty Positions

Tenure Track Faculty Position: The Eastern Virginia Medical School (EVMS) is seeking applicants for a medical educator tenure track faculty position in the Department of Physiological Sciences. The successful applicant will contribute to medical and health professions curriculum offerings in physiology, pharmacology and biochemistry. The successful applicant will be expected to support department faculty in the use of new teaching technologies and should have published educational research and/or relevant experience using computer assisted learning, online learning, interactive instruction, or adaptive learning assessments. With the entering class of 2011 the medical and health professions schools will occupy 100,000 sq. feet of teaching/research space in the new medical education research building with complete wireless access, and "smart classroom" audio-visual technology. An entire floor is dedicated to modeling and simulation including the Cave Automated Virtual Environment room. EVMS will commit to a fully electronic, laptop driven curriculum beginning with the entering class of 2011 and will employ a variety of modern simulated patient techniques to complement our existing strengths in Standardized Patient Teaching. Areas of developing interest include introduction of bedside echocardiography in student labs, online teaching modules and the use of 3-D modeling and simulation in a virtual operating room or teaching laboratory setting. Applicants are required to have an MD or a PhD in biological sciences, or related field. Applicants may have expertise in any area of human physiology though preference will be

given to those with medical school

teaching experience in the cardio-respiratory area. An interest in medical simulation and an education philosophy oriented towards student-centered active learning approaches, team work and innovation are desirable. EVMS is an Affirmative Action/Equal Opportunity Employer and Drug & Tobacco Free Work Place. Send letter of interest, curriculum vitae and names of at least three references electronically (preferred) to: mededu@evms.edu or by mail to: Human Resources, Eastern Virginia Medical School, 358 Mowbray Arch, Suite 101, Norfolk, VA 23507.

Faculty Position: The Department of Molecular & Cellular Physiology invites applications for a tenure track position at the level of Assistant /Associate Professor. Successful applicants will be expected to develop an independent, nationally funded research program. Preference will be given to individuals with an interest and record of achievement in cardiovascular research. Information about the departmental research focus is available at http://www.shreveportphysiology.com. A generous startup package and appropriate space will be offered. Applicants should have a Doctoral degree and relevant postdoctoral experience. Applications will be reviewed as they are received until the position is filled. Send curriculum vitae and names of three references to: D. Neil Granger, PhD, Boyd Professor & Head, Department of Molecular & Cellular Physiology, LSU Health Sciences Center, 1501 Kings Highway, Shreveport, Louisiana, 71130-3932, FAX: 318-675-6005, Email: dgrang@lsuhsc.edu. LSU Health Sciences Center is an Affirmative Action / Equal Opportunity Employer.

Book Reviews

Nutrition, Physical Activity, and Health in Early Life

Jana Parízková CRC Press, October 27, 2009, 428pp, \$144.95 ISBN: 9781420082319

Professor Jana Parízková, a wellknown and highly respected researcher in the area of preventive medicine in youth and adolescence, is a senior scientist at the Centre for the Management of Obesity, at the Institute of Endocrinology in Prague, the Czech Republic. She received her medical degree from Charles Univ. in Prague, her PhD degree in medical physiology, and her DSc degree in nutrition and metabolism.

Nutrition, Physical Activity, and Health in Early Life is the culmination of the life work of Dr. Parízková in promoting healthy nutrition, physical activity, and other healthy lifestyles at an early age in an effort to reduce the impact of lifestyle diseases in adulthood. The premise of this book is that early intervention will result in much healthier lifestyles later in life, and a better quality of life. This book is targeted for the scientific community and is extensively referenced. There are meticulous summaries of the scientific literature in each of the major areas addressed.

The book is comprised of the following 13 chapters:

• brief general introduction;

• theoretical considerations concerning natural and experimental models, addressing topics such as diet early in life, physical activity during pregnancy, and diet and activity as related to cardiac necrosis;

• nutrition in pregnant mothers and their children in early life;

• growth and somatic development of preschool children;

• nutritional status and dietary intake in early life;

• functional development and physical activity during early childhood;

• influence of varying nutrition and environment on somatic development and physical fitness; • development of obesity and its influence on the functional capacity of children and youth;

• influence of environmental factors;

• influence of motor stimulation, physical education, and spontaneous physical activity;

• driteria for evaluation of morphological and functional development in preschool children: recommendations;

• summary of experimental results; and

• perspectives: physical activity, early prevention of diseases, and development of positive health;

Summary

This book is highly specialized and very comprehensive in the areas covered. It would be an excellent resource book for those scientists conducting research specific to these areas. It is not intended for a general audience.

> Jack Wilmore Tucson, AZ

The Pituitary, Third Edition

Shlomo Melmed Academic Press, 2011 731 pages

Alternatively called the "master gland" of endocrine function, or "master slave" to hypothalamic control mechanisms, the pituitary gland is home to numerous cell types and hormones that serve critical developmental and homeostatic operations. The clinical importance of this tissue is evidenced by the multitude of pathological conditions that arise either within the pituitary itself or as a consequence of downstream effects of pituitary dysfunction. Understanding pituitary function and regulation, therefore, is essential for basic and clinical researchers, as well as those involved in managing pituitary disease in a clinical setting.

Melmed's The Pituitary (3rd Edition) provides a comprehensive and integrated resource for students and trainees, scientists and physicians, in a broad range of disciplines. The current edition takes into consideration significant advances that have been made in our knowledge and understanding of pituitary function, and the clinical treatment of pituitary disorders, since the previous edition was published in 2002. The text is divided into four sections, differing slightly from the previous edition: 1) hypothalamic-pituitary function; 2) hypothalamic-pituitary disorders; 3) pituitary tumors; and 4) pituitary procedures. The "disorders" component now incorporates section four on pituitary disease in systemic disorders from the second edition. Now absent are the sections "Neuro-ophthalmalogic evaluation of pituitary disorders," and "Evaluation of normal pituitary function." In contrast, a significant and highly relevant addition is the new first chapter on pituitary development. Overall, a general reorganization and restructuring of the table of contents has resulted in an easily accessible reference that is brimming with both foundational and newly obtained knowledge.

As was the case with the previous two editions, basic science and clinical medicine are blended together in this volume. This most recent edition, however, extends to include recent findings in the biochemistry, cellular biology and molecular biology of the pituitary, along with enhanced diagnostic- and therapeutic-related information. Because of this multidisciplinary approach, readers will gain a better sense of bench-to-bedside translation of research data, and be able to assess how clinical data can inform laboratory science. Figures, graphs and images support the comprehensive text, and the level of detail provided achieves a fine balance between being a ready resource and extending the nonexpert's existing knowledge. In particular, chapter 13 ("Drugs and pituitary function") gives an excellent survey of broad but regularly-employed classes of pharmacologic agents and their influences on the pituitary.

In summary, this is a timely new edition of an established text. It is a wellwritten, highly relevant reference that contains material from many leaders in the field and also provides a wealth of additional references for further investigation.

> Kristin L. Gosselink Univ. of Texas at El Paso

Wine Wizard

Hi all: This is the time of year to sniff out backyard BBQ (should I say grill?) type wines, defined thusly: cheap but not nasty. To go with burnt sausages & mustard, burnt chicken & potato salad, burnt ribs & BBQ sauce, burnt corn dripping with saturated fat, burnt apple pie & ice cream, you get the picture. Impossible. Naaagh, as the goat in the TV ad is prone to say. Anything's possible with enough ethanol.

Whites:

2007 Tapestry Chardonnay, McLaren Vale, South Australia \$10; 4-years old chardonnay and in this column? Well, read the first par again. Jokes aside, this is quite good and not just a vegetal lemon-oak cocktail as you would likely get from a four-year-old California effort. (No biases here). Nose has tropical fruit but with an interesting minerally, almost earthy edge. The palate is light and not oaky, with excellent acidity. I detected apple, lime and passionfruit, and that minerally, earthy edge again.

2009 Oisly-Thesee (huh?) Sauvignon Blanc, "Touraine", France \$7. Oily what? So that's why it is for burnt this and that? Naaagh (defined above). Intense nose of tropical fruit, with citrus and dry herbs. The palate is clean, forward, viscous, with very good acidity. While there is lots of lemon, there is also tropical fruit and dry herbs.

2009 14 Hands White Blend, Washington State, \$9. No, not talking about kids from the Love Canal, although just think what you could do with 12 extra hands. And the plausible deniability to go along with it. I have no idea what grapes are in this; the label does not disclose, but no matter. The wine has a pleasant tropical nose, the palate is a bit simple but is clean and has nice tropical/citrus flavors. It definitely has some sweetness, which many will love and even more will hate. For me, it should be quite cold to mitigate said sweetness.

2010 Mezzacorona Chardonnay "Vigneti Delle Dolomiti" \$5. Sounds to me like screwed up cigar juice from farms in the Dolomites whose proprietors mistook tobacco plants for grape vines. Oh well, should go well with

The Wine Wizard Peter Wagner



Peter Wagner

burnt this and that, don't you think? Back to the wine, the nose is very ripe, slightly herbaciously so, with vanilla. The palate is similar and is saved by good acidity.

Red wines

2009 Hahn GSM, central coast, \$9. GSM stands for great sucking mess, or maybe goat, sheep and moose, or perhaps Grenache, Syrah and Mourvedre (all being classic Rhone valley grapes). You choose. If you like wine on the side with your American Oak (dill, coconut, vanilla) this is for you. Burnt this and that, you have met your match. There is really great red and dark cherry fruit on the nose and palate (and even greater dill/coconut/vanilla). It is tasty, soft, low in tannins, medium in acid, and very easy to drink with charcoal scraps to subdue the dill. And only 14.3% ethanol.

2007 Niner Red Wine "Twisted Spur", Paso Robles \$15. Dunno the grapes, probably mostly Syrah. The nose has very good red and dark berry fruit with some mint. The palate is similar. Twisted is right! Seems there is a twisted spur of eucalyptus in there somewhere (giving the mint). The acids are soft, giving a sense of sweetness, and the tannins are also low. Valley, Chile \$9. Knowing that agua means water and that Buena means good, that this is NOT called Buenaagua Valley bothers me a bit. Someone please tell me what "Colch" in front of agua translates to, so I can get on with my life. Lots of black cherry in the nose and palate. This wine is soft, rich, ripe and viscous, fruit driven with low tannin and low acid, a little oak char and quite a bit of green bean flavor, which ya gotta like in a Merlot if you want to just sip it. But with the BBQ, don't worry, the burnt meat will nuke the green bean in a flash.

2008 14 Hands Red Blend "Hot to Trot" Washington State \$9. If they have 14 hands, I wonder how many feet they have? Could this be a SNP or would it have to come from MNP (multiple nucleotide poly's)? I digress. This one is for those who like sweetness in their red wine. The nose has red cherry, vanilla, and dry herbs. The palate is sweet, with low acid and tannin and good red cherry fruit. Did I say sweet? But I finally get it – 7 times as much sugar as most of us two-handed folk could throw in to the vat. That's why it's sweet.

2008 Kirkland Zinfandel "Grandmere" old vine, Amador, \$12. Enological know-alls (who by definition would never be caught reading my columns) will tell you that this is none other than the famous Renwood Winery Grandmere Zinfandel bottled under the Costco label and sold at a lower price than the original. It's just as good. With an even 15% ethanol, it is light, bright, intensely built in terms of raspberry/cherry nose and palate, but has heat (sweet alcohol taste and warmth). Acidity is quite high (thank goodness, given the alcohol), tannins are medium soft, and it is just delicious in spite of the ripe fruit/alcohol-induced sweetness. Unlike the 14 appendages red wine above, I don't think there really is residual sugar here, just ripe fruit and booze.

Just what the burnt this-and-that on the grill calls for. Or is it BBQ? *

2009 Root 1 Merlot, Colchagua

Meetings & Congresses

September 1-4

5th International Conference on Oxidative Stress in Skin Biology and Medicine, Andros, Greece. *Information:* M. Rallis, University of Athens, School of Pharacy, Panepistimiopolis Zografou 15771, Athens, Greece. Tel.: +30-210-7274699; Fax: +30-210-7274027; Email: rallis@pharm.uoa.gr; Internet: http://www.pharm.uoa.gr/oxstress.

September 6-9

International Psychogeriatric Association 15th International Congress, Hague, The Neterlands. Information: Email: info@ipa-online.org; Internet: http:// www.ipa-online.org/.

September 7-11

EMBO Conference Series on Protein Synthesis and Translation Control, Heidelber, Germany. *Information:* Internet: http://www.embl.de/training/events/2011/TCR11-01/info/index.html.

September 7-11

Risk Factors in Pulmonary Hypertension: Geneder, Sex Hormones, Obesity, Novel Genetic Influences and Risk Factors, Sedalia, CO. *Information:* Internet: http://www.thoracic.org/assemblies/pc/groverconference/pages/conference-details.php.

September 9-11

Oskar Kellner Symposium 2011: Metabolic Flexibility in Animal and Human Nutrition, Warnemunde, Germany. Information: Email: oks-info@fbndummerstorf.de; Internet: http://oks.fbn-dummerstorf.de/.

September 11-14

The 7th FAOPS Congress, Taipei, Taiwan. Information: Secretariat of FAOPS 2011, Department of Physiology, College of Medicine, National Cheng Kung University Tainan, Taiwan 70101. Tel.: 866-6-2353535 ext. 5436; Fax: 866-6-2362780; Email: FAIOS@conf.ncku.edu.tw; Internet: http://conf.ncku.edu.tw/faops/index.htm.

September 11-14

The Twelfth International Conference on Endothelin (ET-12), Cambridge, United Kingdom. Information: Amalie Brown, ET-12 Conference Secreteriat, c/o The British Pharmacology Meetings Secreteriat, London, UK. Tel.: +44 207 239 0183; Email: meetings@bps.ac.uk; Internet: http://www.endothelin-conferences.org/Cambridge2011/.

September 12-16

Joint Meeting ISAN/AAS - 7th Congress of the International Society for Autonomic Neuroscience (ISAN) and the 22nd Annual Symposium of the American Autonomic Society (AAS), Buzios, Brazil. Information: Internet: http://www.eventus.com.br/isan2011/.

September 15-16

Animal Models and Their Value in Predicting Drug Efficacy and Toxicity, New York, NY. Information: Internet: http://www.nyas.org/AnimalModels.

September 22-24

44th Annual Meeting of the Society of Leukocyte Biology - Infection, Inflammation, and Immunity, Kansas City, MO. Information: Society of Leukocyte Biology, 9650 Rockville Pike, Bethesda, MD 20814. Tel.: 301-634-7451; Fax: 301-634-7455; Email: slb@faseb.org; Internet: http://www.leukocytebiology.org/.

September 22-25

WOFAPS Area Meeting - Updates in Pediatric Surgery: Controversies and Advances, Tuzla, Bosnia. *Information:* Vikki Hyman, Conference Secretariat. Tel.: +41 22 5330 948; Fax: +41 22 5802 953; Email: mail@wofapsbosniameeting.com; Internet: http://www.wofaps-bosniameeting.com/.

October 1-5

6th International Conference on Sodium Calcium Exchanger, Napoli, Italy. *Information:* Prof. Lucio Annunziato, M.D., Department of Neurosciences, School of Medicine, University of Naples Federico II, Via Sergio Pansini 5, 80131 Naples, Italy. Tel.: +39-081-7463318; Fax: +39-081-7463323; Email: lannunzi@unina.it; Internet: http://ncxconference.altervista.org/.

October 13-16

Joint Meeting of the European Society of Microcirculation and the German Society of Microcirculation and Vascular Biology, Munich, Germany. *Information:* Conference Organizers: Prof. Dr. Med. Ulrich Pohl (ESM) and Prof. Dr. Med. Markus Sperandio (GfMVB), Ludwig-Maximiliams-University Munich, Walter Brendel Centere of Experimental Medicine, Marchionistr 15, 81377 Munich (DE). Email: microcirculation2011@med.uni-muenchen.de; Internet: http://microcirculation2011.de/.

October 15-17

4th International Congress on Image and Signal Processing (CISP 2011) and the 4th International Conference on BioMedical Engineering and Informatics (BMEI 2011), Shanghai, China. Information: Email: cisp-bmei@dhu.edu.cn; Internet: http://cispbmei.dhu.edu.cn/.

October 18-20

CAREX Conference on Life in Extreme Environments, Dublin, Ireland. *Information:* Nicolas Walter, CAREX Project Office, European Science Foundation, 1, quai Lezay-Marnesia, BP 90015, F-67080, Strasbourg Cedex, France. Tel.: +33 0 388 767 166; Fax: +33 0 388 370 532; Email: nwalter@esf.org; Internet: http://www.carex-eu.org/.

October 22-26

Canadian Cardiovascular Congress, Vancouver, British Columbia, Canada. Information: CCC Secretariat, c/o Intertask Conferences, 275 Bay Street, Ottawa, ON K1R 5Z5, Canada. Tel.: 613-238-2304 or 866-317-8461; Fax: 613-236-2727; Email: cardiocongress@intertaskconferences.com; Internet: http://www.cardiocongress.org/.

October 31-November 4

Ion Channel Signaling Mechanisms, Marrakesh, Morocco. Information: Internet: http://www.icsm-ma.com/.

Meetings & Conferences

of the American Physiological Society

2011 APS Conference:

7th International Symposium on Aldosterone and the ENaC/Degenerin Family of Ion Channels: Molecular Mechanisms and Pathophysiology

September 18-22, 2011 • Asilomar Conference Grounds, Pacific Grove, California

2011 APS Conference:

Physiology of Cardiovascular Disease: Gender Disparities October 12-14, 2011 • University of Mississippi Medical Center, Jackson, Mississippi

Experimental Biology 2012

April 21-25, 2012 • San Diego, California

2012 APS Conference:

Autonomic Regulation of Cardiovascular Function in Health and Disease

Summer 2012 • Omaha, Nebraska

2012 APS Intersociety Meeting:

The Integrative Biology of Exercise VI

October 10-13, 2012 • Westin Westminster Hotel, Westminster, Colorado



The American Physiological Society, Meetings Department Phone: 301.634.7967, Fax: 301.634.7264, E-mail: meetings@the-aps.org



MEMBERSHIP APPLICATION FORM The American Physiological Society

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	Dates** Degree	Institution	Major Field	Advisor	

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14. OCCUPATIONAL HISTORY [Check if student]

Current Position:						
Dates	Title	Institution	Department	Supervisor		
Prior Positions:						
Dates	Title	Institution	Department	Supervisor		

15. LIST YOUR MOST SIGNIFICANT PUBLICATIONS, WITH EMPHASIS ON THE PAST 5 YEARS (Publications should consist of manuscripts in peer-reviewed journals. List them in the same style as sample below.)

Sample: MacLeod RJ and Hamilton JR. Volume Regulation initiated by Na⁺ -nutrient contransport in isolated mammalian villus enterocytes. Am J Physiol Gastrointest Liver Physiol 280: G26-G33, 1991.

16. DOCTORAL DISSERTATION TITLE (if applicable):

17. POSTDOCTORAL RESEARCH TOPIC (if applicable):

18. WHICH FACTOR INFLUENCED YOU TO FILL OUT OUR MEMBERSHIP APPLICATION?

Mailer	□Meeting	(Which	meeting?
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Mail your application to: Membership Services Department, The American Physiological Society 9650 Rockville Pike, Bethesda, Maryland 20814-3991 (U.S.A.) (or fax to 301-634-7264) (or submit online at: www.the-aps.org/membership/application.htm) Send no money now—you will receive a dues statement upon approval of membership. Approval Deadlines: Membership applications are considered for approval on a monthly basis. Questions? Call: 301-634-7171 • Fax: 301-634-7264 • E-mail: members@the-aps.org • Web: www.the-aps.org