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Discipuli Supra Omni Praeferuntur: Above All, the Students Come First

Timothy I. Musch • Kansas State University, Manhattan, Kansas

“Once you have learned how to ask questions – relevant and appropriate and substantial questions – you have learned how to learn and no one can keep you from learning whatever you want or need to know.”

Neil Postman, Charles Weingartner (4)



Timothy Musch

I am honored and humbled to accept this accolade and do so only with the understanding that it represents an achievement shared by my colleagues and students at Kansas State University (KSU) and beyond. In this essay, I would like to address some of the challenges and opportunities facing university teachers in the 21st century and how we have approached them programmatically and in the classroom here at KSU.

In these days of distance education and computer and electronic technology, there may be many impediments to actually getting students to class, including expense, available classrooms, and a wealth of free information (e.g., MOOCs, massive open online courses) that is more readily at hand than ever before. So, I pose the question: What might be the compelling rationale for retaining the time-honored tradition of the professor-student interaction in the university classroom?

When I arrived at KSU in 1993, I accepted one of the first interdepartmental positions on campus in the Departments of Kinesiology (College of Arts and Sciences) and Anatomy & Physiology (College of Veterinary Medicine). This appointment matched an undergraduate and graduate student body (Kinesiology) with first-rate laboratories and animal facilities incorporating a superb range of candidate species from humans to mice, hamsters, rats, dogs, horses, and even elephants! There was also the mandate to teach from undergraduate up to the doctorate (PhD) and professional levels (DVM).

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Change

The Society's publications program has undergone significant change in the last 15 years. Printed journals went digital, enabling easy access to their content. Online access was provided to everyone 12 months after publication, well before the NIH introduced its Public Access mandate. Author Choice provided authors with an open-access option to meet the needs of their funding agencies, and, indeed, the APS launched its first exclusively open-access journal *Physiological Reports* in partnership with The Physiological Society, our sister society in the UK. And as you can read in this issue of *The Physiologist*, APS is launching APSselect, a virtual journal that will highlight the “best of the best” of the some 250 papers published each month by the Society's 10 research journals.

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Moving from Trainee to Junior Faculty: A Brief Guide

Donald E. Kohan • University of Utah Health Sciences Center



Donald E. Kohan

The transition from student to independent research investigator is challenging, to say the least, but does not have to be painful. This article is intended to help PhD postdoctoral trainees, MD fellows, and junior faculty plan for the successes, and cope with the challenges, associated with a career in research.

At the outset, I need to make a few disclaimers. I do not claim to have special insights – I am just like scientists you encounter regularly, many of whom likely could have written this article. I have had the good fortune of a successful research career, including a variety of leadership positions that allowed me to facilitate the career development of others, and to have guided trainee development on a national level. Hence, although I have the background to offer some useful advice, it comes from long experience, not some unique, inherent ability. Second, even all the best-laid plans do not guarantee success. I have had, and anticipate will continue to have, failed (yes, even triaged) grant applications, rejected papers, scooped research, and the burden of administrative mandates that defy all logic. Nonetheless, I have managed to learn from the failures and frustrations (admittedly after recovering from my initial anger and disappointment) and to leverage this knowledge into more successful approaches and healthier attitudes. Third, this brief article is not intended to persuade anyone to pursue a research career; the desire for that comes from a passion that, while perhaps blossoming under great teachers and nurtured by great mentors and colleagues, is uniquely yours. In essence, I am writing down what I wish some mythical advisor had told me many years ago – I'd like to think it would have made a difference for me, and my hope is that trainees and junior faculty reading this will feel the same.

Over the course of your training and transition to faculty, you will receive advice from a wide range of sources, but in the end, you alone have to decide which goals to set and which path you will follow to achieve these. There are many factors involved in achieving your research goals. Some of these are obviously unique to you and your institution; however, the following constitutes some

guidelines that are almost universally applicable. They are listed in no particular order of importance; each topic is important to consider when planning for a successful research career. A lot of the advice is rather terse; it would be easy to write a book on this subject. The idea is to view what follows as the big picture – it will be up to you to fill in the details.

Having the Right Attitude

I think a research career involves three main mental attitudes: passion, acceptance of risk, and perspective. I love the process of discovery and the scientific interactions along the way. I can't explain why, but this drive has been there as long as I can remember. Ultimately, we pursue a career in research because, without a doubt, we are highly motivated, whether it is for science and discovery, for teaching, for helping to build programs, or some combination of each. Be honest with yourself. If you don't feel the hunger, reevaluate your career choice. Second, research requires risk. I guarantee you will fail – with experiments, techniques, grant funding, and manuscript acceptance. Know that your struggles are typical. Even the most successful researchers experience failure and rejection. This brings up the third point: maintaining perspective. This involves dealing with both failure and success. No one should go into research believing they will be successful for their entire career. You will fail – it is how you deal with it that matters. Regroup, reevaluate, seek input, be patient, and don't lose sight of your priorities. In the end, when success comes, when you finally get that technique to work, that grant funded, that great study accepted for publication, take the time to revel in what you have accomplished.

Making Goals

Establishing goals is essential in defining what your career will entail and how you will achieve success. I strongly suggest making and literally writing down 1-, 3-, and 5-year action plans. Indeed, the act of making and reviewing your plans may do more good than actually having the plan. First, you need to establish your priorities and stick with them. This includes everything that matters to you – family, finances, fame, etc. It is critical that you be honest with yourself, both in setting your priorities and in assessing your strengths and limitations. If you haven't thought a lot about your priorities, one useful exercise is to write your own obituary. What would you

like it to say? Once you have determined your priorities and performed a self-assessment, write out your goals, the challenges in achieving them, how you will address these challenges, and how you will assess whether you met your goals. Review your action plans with colleagues and mentors (see below). Finally, assess your progress at regular intervals (maybe every 6 months) and determine whether you need to change something, including changing the goals themselves.

The Value of Mentors

A good mentor is invaluable. Published studies repeatedly conclude that mentored trainees are more successful and happier with their careers. It doesn't matter what academic rank you have achieved or how competent you are; a good mentor can help anyone. Finding this mentor is not always straightforward. Some institutions have established programs designed to facilitate mentorships, whereas others have no formal process. Find out what your institution has available, talk to your chairperson and colleagues, and talk to as many people as possible. Finally, although identifying a great local mentor is a big step in the right direction, also seek input from experienced individuals at other institutions. Make it nonthreatening, e.g., ask for their opinion of your work when they come to your poster at a meeting. Seek input and advice from individuals you believe are honest and open to providing help.

Now that you have a mentor, the next step is being a good mentee. Listen to your mentor and avoid being defensive – good advice, given as constructive criticism, can be difficult to accept. I know this sounds obvious, but some trainees can't get beyond their own egos and emotions. Second, be an active mentee; it is your responsibility to come to the mentor with your own thoughts and ideas. Mentors can guide, but they are not there to provide handouts. I can't emphasize this point enough – far too many trainees believe that their path will be cleared, steered, and guaranteed by their mentor. Along these lines, do not wait for your mentor to initiate conversations; set up frequent and regular meetings with your mentor. It is easy to skip these with all the demands on your time, but avoid the temptation! Finally, even if you are a graduate student or postdoc (where your advisor will be your main mentor), it doesn't change the fact that you need to adopt the attitude that the more you bring to the table, the better your training experience will be. The bottom line is that a great mentorship is a two-way street.

Staying Current and Making Connections

The first step in staying current is obviously reading the literature. This is a daunting task and can get discouraging.

However, following a couple of simple rules may help you stay abreast of the key literature. The first is to read high-quality journals both within and outside your field. Regardless of your area of interest, be sure to stay current on work even remotely related to your interests by seeing what's new in *Nature*, *Cell*, *Science*, *PNAS*, and other very high-quality general topic journals. The second rule is to avoid the temptation to skip reading the literature due to a busy schedule. It is far too easy to let your reading slide since, like everyone, you will have too many other things to do. It may be useful to set aside a specific time of day for a specific length of time, even if it's only for 15-20 minutes.

Attending conferences and meetings is important on several levels. Go to local research meetings that involve smart people with whom you would like to work, who use techniques of interest, and who are doing cutting-edge research. Often, it is less about the specific topic as opposed to the quality of researchers who attend these meetings. Combat your shyness and get known locally so people will be more likely to help you with techniques or share ideas. You never know when or where a good idea or collaborator will arise. Similarly, attend some sessions and/or talks at regional, national, or international meetings that are tangential to your area of interest – something might click that you never anticipated. Attending these meetings also helps you become known, so you want to go to meetings where you can interact with people who are in positions to affect your career. Develop your networking skills. You never know who you will meet who might be in a position to help you. It doesn't hurt that people know you and respect your abilities when you are applying for jobs or seeking help with projects. Finally, seek and be open to input and advice from peers about your meeting presentations. You may be surprised to discover the positive impression you create by a finely tuned presentation. Be sincere – most senior faculty have seen it all and are not generally impressed by sycophants.

Involvement in committees is also important. You want to be a team player, but avoid getting overextended. Volunteer for a local and a national committee, but don't do too much. Choose committees that might help your career beyond simply serving on the committee – having people on the committee who will get to know and value you can make an important difference. Your mentor as well as other people you respect in your field can help guide you in your choices of committees in which to seek membership.

Making connections is also about finding high-quality collaborators. Research is now typically done by a village,

not by an individual. Seek out potential collaborators within and outside your institution. If they are outside your institution, encourage your program to have them visit as an invited speaker. Also, keep in mind that collaboration works both ways, i.e., you have something to bring to the table as well.

Choosing a Research Topic

Studying the right research topic involves a combination of luck, perseverance, careful analysis, and creativity. That said, here are some general principles that trainees and junior faculty in particular should consider. First, study what is important. Ask yourself, “So what?” If you complete the study and there is nothing further to do, it probably isn’t worth doing. Be brutally honest in this questioning, i.e., pretend you are looking at your own research as a dispassionate grant reviewer. Run your ideas by trusted and experienced scientists, including ones outside your field. These people should be critical but fair – you will not benefit by a pat on the back. Be aware of how much time you have spent working on a project – if it isn’t going anywhere, cut the cord and move on. Second, study mechanisms as opposed to being only descriptive. Ask, “How does this happen?” not just, “What happens?” Third, avoid working on projects where you cannot see them leading to a publication with significance and to grant funding. Fourth, avoid the temptation to focus exclusively on your own project while in your advisor’s lab. Pay attention to all projects going on in the lab. Familiarize yourself with all techniques used in the lab. This will help you be unafraid of trying different experimental approaches and will facilitate thinking about problems from many different angles. It could also lead to opportunities for involvement in more publications. Fifth, do not assume that the project you are assigned as a trainee is good or important. Read and convince yourself of the project’s merit. Question everything! If you think you have better ideas, discuss it with your mentor. Sixth, work toward developing a niche, whether based on a technique, new application of a technique, new concept, etc.

When done with your training, focus on one major research theme. Do relatively safe science, at least when you are

starting your career, i.e., not something that will take several years before you know whether it will work (like having everything depend on making a new mouse line). Once you get some funding, then you can take more chances. As you move into your junior faculty years, always be thinking about ideas for major fundable projects. Keep written notes and always draft specific aims pages and outlines for future projects. The process of writing a grant outline, even if you don’t plan on submitting the grant any time soon, can be tremendously helpful in organizing a successful research approach. Finally, you should be integrating yourself into a research team wherein you can retain your identity but can benefit by their collective skills, knowledge, and experience.

Writing Grants

Begin writing grants as soon as you can. A small grant is better than none and helps pave the way to bigger grants. Your mentors will be important resources during this process. With their help, make a list of all funding sources that are available to you. You might be surprised at some of the funding sources. In particular, read the NIH website frequently for new grant opportunities and get on the appropriate NIH listserv to receive program announcements.

The most important class I ever took was 7th grade English. Knowing how to construct a paragraph and organize a paper around a particular theme has done more good for my grant-writing career than any science class. I can’t tell you the number of times I have seen very bright people fail because they couldn’t communicate effectively on a grant application. Work on this skill. Show your grant applications to trustworthy people who have a track record of successful grant funding and ask them to be highly critical of both the writing and the scientific content. Be sure you give them a draft of the grant with plenty of time left to revise and submit to the funding agency. This means you should start working on your grant at least 3 months before the submission deadline. Invariably, I discover things during this process that, because I have given myself the time, allow me to get in that last bit of critical preliminary data or do a major rework on the application.

D. E. Kohan is professor of medicine and pharmaceutical chemistry at the University of Utah. He has served as director of education for Nephrology Fellowship Training for the American Society of Nephrology (ASN), as dean of Graduate Medical Education at the University of Utah, and currently as treasurer of the APS Renal Section. In 2012, he was awarded the ASN Robert Narins Award for outstanding achievements in education, and, in 2013, he was awarded the Ernest Starling Lecturer by the APS Water and Electrolyte Section.

Grant reviewers are busy people. Pretend that they are unhappy, that they have to read your application. Don't give them cause to be angrier! Write clearly and succinctly (neither too complex nor too condescending), making it possible to understand and evaluate your proposal without having to be an expert in your field. The best grants are those that are enjoyable and easy to read – they teach at the same time they excite the reviewer. There are multiple other issues associated with effective grant writing that are too extensive to address here. Attend a grant-writing workshop or class, even if you think you already know what to do.

Know the Rules of the Game

It is natural to feel like you are somewhat special when starting your first faculty appointment. After all, somebody felt you had promise and was willing to give you money. Although your institution will benefit if you succeed, it doesn't exist to serve you. Your chair or chief likely has every intention of helping you succeed, but beyond your start-up package, the institution does not owe you anything. Get over any sense of entitlement! You can help people work for you if you understand the politics and navigate these waters skillfully. First, be sure you thoroughly understand local promotion, retention, and tenure policies before you become faculty. Second, be very clear on your start-up package and subsequent institutional support. As part of this, educate yourself to understand local and national forces driving financial support. Larger forces drive your division, department, and institution – the better you understand these, the more reasonable your expectations will be. Third, don't wait for your chief and/or chair to come to you with their expectations. They are very busy and don't always remember or recognize the need to initiate communication as frequently as you might need it. You should take it upon yourself to maintain excellent communication with them. As a rule of thumb, you can never over-communicate. In this regard, learn how to effectively communicate your needs, but in a context that is not just self-serving. Everyone loves a team player. It is fine to self-promote, and there are times when you must, just do it in a nonthreatening, nonobnoxious, nondefensive, and constructive context. In summary, educate yourself about the rules of the game – the system can work for you if you know how the system works. ●

Suggested Readings

Mentoring

Chapman AB, Guay-Woodford LM. Nurturing passion in a time of academic climate change: the modern-day challenge of junior faculty development. *Clin J Am Soc Nephrol* 3:1878-1883, 2008

Gosselink KL. Online mentoring through MentorNet.net. *Physiologist* 54: 191-192, 2011

Laughlin MH. Mentoring as a player coach. *Physiologist* 54: 79-82, 2011

Reckelhoff JF. How to choose a mentor. *Physiologist* 51: 152-154, 2008

Attitude

Rolls M. Science stories: flies, planes, worms, and lasers. *Mol Biol Cell* 22: 3921-3922, 2011

Sturek M. Research advisor's checklist. *Physiologist* 54: 95-99, 2011

Wente SR. Spatial and temporal impacts on a career in science. *Mol Biol Cell* 22: 3923-3925, 2011

Career planning

Clifford PS, Fuhrmann CN, Lindstaedt B, Hobin JA. An individual development plan will help you get where you want to go. *Physiologist* 56: 43-44, 2013

Darley JM, Zanna MP, Roediger HL. *The Compleat Academic: A Career Guide* (2nd ed.). Washington, DC: American Psychological Association, 2004

DeNeef AL, Goodwin CD. *The Academic's Handbook* (3rd ed.). Durham, NC: Duke Univ. Press, 2007

Goldsmith JA, Komlos J, Gold PS. *The Chicago Guide to Your Academic Career: A Portable Mentor for Scholars From Graduate School Through Tenure*. Chicago, IL: Univ. of Chicago Press, 2001

Lang JM. *Life on the Tenure Track: Lessons From the First Year*. Baltimore, MD: Johns Hopkins Univ. Press, 2005

McAuley E. Becoming a faculty member: transition from graduate student/post-doc to the tenure track (or...so you got the job...now what?). *Physiologist* 53: 78-80, 2010

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Speaker: Jenny McFarland

Workshop I: Using Core Concepts • Jenny McFarland
Workshop II: Case-based Learning • William Cliff

Plenary II

Implementing and Assessing Core Competencies in the Classroom
Speaker: Dee Silverthorn

Workshop III: Using Core Competencies • Dee Silverthorn
Workshop IV: Transforming Cookbook Labs into Inquiry Labs
Margaret Shain

Plenary III

Designing Educational Research
Speaker: Marilla Svinicki

Workshop V: Research Design-Intermediate • Marilla Svinicki
Workshop VI: Research Design-Basic • Michelle Smith

Plenary IV

Student Centered Learning: Practical Models
Speakers: Barbara Goodman and Chaya Gopalan

Workshop VII: Designing Good Clicker Questions • Joel Michael
Workshop VIII: Best Practices for Undergraduate Research Experiences • Kirsten Zimbardi

Plenary V

Aligning Teaching and Assessment: Blooming Questions
Speaker: Mary Pat Wenderoth

Workshop IX: Blooming Questions • Mary Pat Wenderoth
Workshop X: Using Statistics • Douglas Curran-Everett

Plenary VI

Publishing Your Educational Research
Panelists: Robert Carroll and Jean Cardinale

Workshop XI: Research Collaborations I • Open Discussions
Workshop XII: Research Collaborations II • Open Discussions

Plenary VII

Funding for Educational Research: Perspectives from Funding Agencies and Principal Investigators
Panelists: Kate Denniston, Others TBD

Plenary VIII

Where Do We Go from Here? Next Steps in Collaboration and Community Building
Open Discussion



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Publications

APSselect

January 2014 marks the beginning of an exciting new initiative for our Society. To highlight, promote, and rapidly disseminate our very best original research papers, a new Society-wide “virtual journal” will be launched. This new virtual journal, entitled APSselect, will highlight the “best of the best” of the some 250 papers published each month by the Society’s 10 research journals. APSselect will be prominent and easily accessible from the APS homepage and promoted widely.

The overarching goal of APSselect is to shine a bright light on the outstanding scientific discoveries published by our Society each month. APSselect endeavors to be a timely, convenient, and concise “one-stop shopping” mechanism to broadly transmit our most exceptional work. APSselect aims to serve as a virtual “front porch” of the American Physiological Society’s scholarly home. In doing so, APSselect will serve and enliven all 11,000+ APS members. APSselect is also an ideal mechanism to enable a broader mission: to promote excellence of the physiological discipline to biomedical researchers in other fields.

In terms of mechanism, articles highlighted by inclusion in APSselect will be published as they are currently published in the 10 APS research journals. Every month,

each APS journal editor will nominate two of their most exciting, newly accepted papers to the APSselect editorial board. A rank voting system will then be used to select the top-tier papers to highlight. The APSselect editorial team (Joseph Metzger EIC, Linda Samuelson AE) will include APS Publications Committee members, together with the immediate past, present, and newly elected president of the Society. Thus each year the APSselect Board will have a regular influx of new members as others rotate off.

We are mindful that all of the editor-nominated papers will be outstanding. Although this makes the choice difficult, it will be important to be steadfast in selecting a small number of the most outstanding papers. We believe that this vehicle will serve to draw new viewers into the Society journals. This outcome would benefit all.

We invite all APS members to rally around this new initiative and look forward to our 10 outstanding APS editorial teams bringing forward their best works. With everyone’s support, we expect that APSselect will serve our membership and discipline with distinction and pride. ●



ANNOUNCING...


New Monograph Series FREE to APS Members

The APS is pleased to announce the publication of the first new monograph as part of our partnership with Springer. **Lawrence Longo, Loma Linda University School of Medicine**, has written a definitive history of an important field of physiology, that which concerns the developing fetus and newborn infant. The book, titled ***The Rise of Fetal and Neonatal Physiology – Basic Science to Clinical Care***, addresses the contributions of physiologists and other basic scientists to clinical problems of prematurity. APS members can read the book for free online and purchase a printed copy for \$40.


2013, XXVII, 533 p. 52 illus., 18 illus. in color.

The APS has collaborated with Springer to digitize 33 book titles in the APS monograph series (*Methods in Physiology*, *Physiology in Health and Disease*, and *Perspectives in Physiology*).

Springer will be publishing more new titles that will be freely available to APS members in eBook format.



For more information, please visit:
<http://bit.ly/FetalNeonatalPhysiology>




Calls for Papers

Physiological Genomics

Epigenetics and Epigenomics
(Submission deadline: January 31, 2014)

Physiological Genomics of Exercise in Health and Disease
(Submission deadline: March 1, 2014)

Mitochondrial Metabolism

NextGen Sequencing Technology-Based Dissection of Physiological Systems

Advances in Physiology Education

Teaching and Learning of Professional Ethics

American Journal of Physiology – Gastrointestinal and Liver Physiology

Physiology and GI Cancer

Intestinal Stem Cells in GI Physiology and Disease

Innovative and Emerging Technologies in GI Physiology and Disease

American Journal of Physiology – Heart and Circulatory Physiology

Cardiovascular and Cerebrovascular Aging: New Mechanisms and Insights
(Submission deadline: March 15, 2014)

American Journal of Physiology – Lung Cellular and Molecular Physiology

Biomarkers in Lung Diseases: From Pathogenesis to Prediction to New Therapies

Biomarkers of Household Air Pollution
(Submission deadline: April 1, 2014)

Real-Time Visualization of Lung Function: From Micro to Macro
(Submission deadline: January 1, 2015)

Bioengineering the Lung: Molecules, Materials, Matrix, Morphology, and Mechanics

American Journal of Physiology – Renal Physiology

Renal Hemodynamics: Integrating with the Nephron and Beyond
(Submission deadline: February 1, 2014)

For a complete list of current Calls for Papers, visit the APS homepage and click on the tab for *Calls for Papers*.

Science Policy

APS Members Tell Congress to Invest in Research, Regulate Sensibly

In October 2013, members of the APS Science Policy (SPC) and Animal Care and Experimentation (ACE) Committees went to Capitol Hill to meet with members of Congress. Purely by chance, these meetings happened to fall on the first and last days of the 16-day government shutdown when Congress failed to approve fiscal year 2014 funding. Despite the chaotic political atmosphere, most of the meetings went forward as planned. (The Twitter hashtag for both meetings was #HillDayAPS.)

Science Policy Committee Capitol Hill Day: October 1, 2013

The SPC carried the message that increased federal support for research is critical for advancing science and innovation and for fostering the next generation of scientists. SPC members also pointed out the devastating effect that sequestration is having on the scientific workforce and asked Congress to find a permanent solution to replace the further board cuts scheduled for the next 10 years.

SPC members met with 17 Congressional offices from 13 states, from California to Maine. They met with 10 Republican, 5 Democratic, and 2 Independent offices.

Most were supportive of biomedical research, but many also expressed concerns about the overall level of federal spending and the need to reduce the federal deficit. Some offices also stated that federal research agencies need to focus their resources on the most pressing areas.



Gina Yosten, Robert Hester, and 2013 Early Career Advocacy Fellow TanYa Gwathmey-Williams in front of the Capitol building.



The Science Policy Committee prepares to depart for Capitol Hill.



Kathryn Meier (right) with Rep. Cathy McMorris Rodgers (R-WA)



Richard Nichols (left) with Rep. Hank Johnson (D-GA).

Animal Care and Experimentation Committee Hill Day: October 16, 2013

The ACE Committee discussed the pivotal role that animal studies play in the search for cures and scientists' commitment to animal welfare. We expressed support for NIH's plan to continue a limited amount of research involving chimpanzees and our opposition to two bills that would halt animal-based training for military medics preparing to serve as battlefield first responders.

ACE Committee members met with the offices of 15 members of Congress – 7 Senators and 8 Representatives from 11 states. The meetings involved seven Democrats and eight Republicans. ●

For more information on how YOU can be an advocate for research, see <http://the-aps.org/SciencePolicy>.



Richard Nichols, Gaylen Edwards, Sharon DeMorrow, Robert Shade, and Naz Moaddab in front of the Capitol.



Michael Ryan, Eugene Shek, J. R. Haywood, and Linda Toth at the office of Rep. Randy Hultgren (R-IL).



The Animal Care and Experimentation Committee prepares to depart for Capitol Hill.

Science Policy



APS Peer Review Fact Sheet and Resource Guide Available

The APS Science Policy Committee has created a new resource fact sheet, "Peer Review 101." It is available from the APS Science Policy web page as a free download at <http://the-aps.org/PeerReview101>. This same page also has a link to supplemental resources.

Peer Review 101 was designed to help physiologists at every stage of their career develop the skills needed to serve as effective peer reviewers. It suggests ways that senior scientists can mentor and provide peer review experience for their students, post docs, and junior colleagues.

One objective of the 2010 APS Strategic Plan objective was to encourage physiologists to participate in funding agency peer review. Peer Review 101 is meant to help scientists develop the skills and experience they need to become competent peer reviewers for scientific journals as well as funding agencies. ●



APS Professional Skills Training

2014 Course Offerings

www.the-aps.org/PST

Manuscript Writing Skills

Writing and Reviewing for Scientific Journals

January 16-19 (Lake Buena Vista, FL)

Work with leading experts in-person to improve your first-author draft manuscript while learning the essentials of scientific writing and reviewing.

Writing and Reviewing for Scientific Journals

June 23–August 8 (Online)

Work with leading experts online to improve your first-author draft manuscript while learning the essentials of scientific writing and reviewing.

Meeting and Presentation Skills

Creating a Poster for a Scientific Meeting

February 27–March 5

Learn how to organize and create an effective and engaging scientific meeting poster.

Presenting a Scientific Poster

March 13-19

Learn the essentials of presenting a poster to multiple audiences at a scientific meeting.

Networking at a Scientific Meeting

March 27-April 2 (Online)

Learn how to successfully network at a scientific meeting.

Abstract Writing for Scientific Meetings

October 16-22 (Online)

Receive feedback on your first-author abstract while improving your abstract writing skills.

Interviewing Skills

Interviewing for an Academic Position

May 8-18 (Online)

Work with experienced faculty on how to start a job search, prepare a curriculum vitae and research statement, have a successful interview, and present an engaging job talk.

Interviewing for an Industry Position

September 11-21 (Online)

Work with industry professionals on how to start a job search, prepare a cover letter & resume, have a successful interview, and present an engaging job talk.



APS News

APS Council Meets in Virginia

The APS Council held its fall meeting in Lansdowne, Virginia, to receive reports from Publications, Finance, Membership, Education, and several other Committees. APS staff members Robert Price, Rita Scheman, Marsha Matyas, Alice Ra'anan, and Linda Allen joined the meeting to assist with the committee report presentations. In addition to receiving reports, the Council also spent time reviewing the Society's progress in implementing the Strategic Plan and identifying additional opportunities to advance the Society.

It was reported that, as of October 1, 2013, the Society's membership stood at 10,576. During the discussion of the membership report, it was recommended that the Society consider allowing graduate students to remain in that category for up to 7 years. However, it was also noted that there was a need to better inform graduate students of the availability of free membership when converting from graduate student to regular membership. The Council also asked the Membership Committee to explore the possibility of establishing a Fellowship category within APS.

The Finance Committee presented Council with the projected final 2013 budget and the proposed 2014 budget, both of which were accepted and approved by Council. The Finance Committee also made a recommendation to establish a separate fund to cover the cost of the Pan-American Congress Travel Award program, a recommendation that the Council approved. Council also asked the Committee to consider ways in which to grow the APS Endowment Fund to help support some award programs currently supported from operational funds.

The Publications Committee reported that Bill Stanley, *AJP-Heart* editor-in-chief, had died suddenly, 1 day after the Committee had voted to invite Bill to serve a second term as EIC. The Committee is now in the process of identifying an interim EIC to run the journal until a new EIC can be selected. The Committee did appoint Josephine Adams as the new editor for *AJP-Cell* and Bill Yates as the new editor for *Journal of Neurophysiology*. It was also reported that Wiley, our publisher for *Comprehensive Physiology*, had agreed in principle to provide free access to its content to APS members. The Society is currently

working out the details for this new member benefit. *Physiological Reports*, the Society's new open-access journal published in partnership with The Physiological Society, is doing well, with over 200 articles already published. In partnership with Springer, the Society's 33 monographs have been digitized and made available online to the APS membership at no cost. In addition, all new books, including the book published by Larry Longo, also will be free to APS members as e-books. The Committee also reported on a new initiative to draw



Bottom row (left to right): Ann Schreihöfer, Susan Barman, Kim Barrett, David Pollock, and Hannah Carey. Second row: Dennis Brown, Jeff Sands, Pam Carmines, John Chatham, Patricia Molina. Third row: William Talman, Harold Laughlin, Kevin Kregel, Marilyn Merker, Jane Reckelhoff. Fourth row: Martin Frank, Ronald Lynch, Robert Hester, Michael Wyss, Marshall "Chip" Montrose.

Continued on Page 47

APS Participates in Congress of SBFis

Past President Susan Barman and Executive Director Martin Frank participated in the XLVIII Congress of the Brazilian Society of Physiology (SBFis) held September 7-10, 2013 in Ribeirão Preto, Brazil. The Congress provided Barman and Frank with the opportunity to meet with the organizers of the Pan-American Congress of Physiological Sciences scheduled for 2014. Discussions were had on logistics, registration fees, and deadlines. Information about the Iguassu Falls Congress scheduled for August 2-6, 2014 is available online at <http://panam2014.com/>.

During the SBFis Congress, Barman and Frank presented a session on publishing in APS journals and avoiding ethical problems. The session was well received and

represented a continuation of such educational efforts at meetings of SBFis, as requested by the Society. In addition, Frank represented APS at the opening session and extended greetings from APS and a continuation of efforts to work with SBFis to promote physiology in the Americas.

The XLVIII SBFis Congress consisted of 16 courses, 13 conferences, 21 symposia, and 5 workshops. A total of 557 abstracts were submitted for presentation at the meeting. The total registration was 803, with over 70% of the registrants being students. The table below provides information about the registration breakdown. ●

Registration Categories	Number
High School	37
Undergraduate Student	177
Graduate Student	349
Senior Physiologist (Brazilian)	218
Senior Physiologist (International): USA (4) Argentina (3), Denmark (3), UK (3), Spain (2), Sweden (2), Canada (1), Colombia (1), France (1), Switzerland (1), Ireland (1)	22
Total	803

APS News

APS Provides 80 Travel Awards to the XXXVIII IUPS Congress

The American Physiological Society (APS) administered a travel award program for attendees to the XXXVII International Congress of Physiological Sciences, Birmingham, UK, July 21-26, 2013. The APS International Physiology Committee served as the screening and selection committee responsible for identifying recipients of the travel awards. As fiscal agent, the APS received funds for the program from government agencies and from an income account derived from individual contributions and profits associated with the 1968 IUPS Congress in Washington, DC. Government funds were provided by the National Science Foundation (IOS-1261451) and the following NIH institutes: National Institute of Diabetes, Digestive and Kidney Disease and the National Institute of Arthritis and Musculoskeletal and Skin Diseases (R13 DK098941-01).

The XXXVII Congress was attended by 3,061 scientists, representing 88 countries. The US delegation was comprised of 258 scientists. The APS received applications for the travel award program from 155 scientists and students. The Society selected 80 applicants for inclusion in the program (51.6%). Fifty-seven applications (42.2%) were received from female scientists, of whom 41 received awards (71.9%). Of the 53 applications received from APS members in the US, 33 applications were awarded. Of these applications, only two were from scientists who identified themselves as being from an underrepresented minority group, and one of those applications was awarded with a travel grant. The remaining 47 award recipients went to APS members residing outside of the US, with the largest contingents being from Brazil (12 awards) and Nigeria (11 awards). Seventy percent of the applicants identified themselves as early career scientists (either a student or within 15 years of their terminal doctoral degree). The median year for receipt of the doctorate for awardees was 2009.

The awardees were provided with an award ranging from \$500 to \$1,000 to partially defray the cost of travel to the Congress. Many of the awardees not only attended the Congress but also visited research laboratories in the

UK. The awardees were asked to rank the Congress on a scale from 1 to 10, with 10 being the best. More than 85% (68 out of 35) gave the Congress a ranking of 7 or higher. Overall, the attendees were supportive of the Congress and its scientific aspects.

The awardees completed a survey and were asked to respond to the following questions:

Did you combine your attendance at the IUPS Congress with attendance at a satellite meeting? (40.6% of the awardees responded yes!)

Did you combine your attendance at the IUPS Congress with a visit to a research laboratory? (46.4% of the awardees responded yes!)

Did the Congress provide you with an opportunity to develop collaborative research projects with colleagues? (92.9% of the awardees responded yes!)

Did the Congress provide you with an opportunity to identify opportunities to work in another laboratory? (65.2% of the awardees responded yes!)

Did the Congress provide you with an opportunity to recruit candidates to work in your laboratory? (31.8% of the awardees responded yes!)

When asked what the most positive aspect of their participation in the Congress was, this is what some of the awardees had to say:

"I had a chance to really get a sense of what kind of work is going on internationally in my field. Perhaps more importantly, I met and formed relationships with professionals at institutions that I would like to join following my postdoc."

"The big opportunity to develop collaborative research projects with colleagues as well as taking knowledge of many research lines from laboratories all around the world."

Continued on Page 47

XXXVII IUPS Congress – Birmingham, UK

The International Union of Physiological Sciences (IUPS) and The Physiological Society (UK) organized the XXXVII Congress to make a complete and focused presentation of all current trends in modern physiology. The International Scientific Program Committee (ISPC) was chaired by David Eisner and Walter Boron, who organized the program to stimulate cross-disciplinary interaction and to encourage active involvement from all who attended. The ISPC was comprised of the following scientists: René Bindels (Nijmegen, The Netherlands), Yang-Sook Chun (Seoul, Korea), Malcolm Gordon (Los Angeles, US), Penny Hansen (St. John's, Canada), Hans Hoppeler (Bern, Switzerland), Peter Hunter (Auckland,

New Zealand), Ryuji Inoue (Fukuoka, Japan), Andrew McCulloch (San Diego, US), Caroline McMillen (Adelaide, Australia), Denis Noble (Oxford, UK), Quentin Pittman (Calgary, Canada), Jens Rettig (Homburg, Germany), Tobias Wang (Aarhus, Denmark), and Xian Wang (Beijing, China). In addition, the Committee consisted of Bryndis Birnir (Uppsala, Sweden) *SPS*, Graham Collingridge (Bristol, UK), Annette Dolphin (London, UK), Lucy Green (Southampton, UK), Anne King (Leeds, UK), Patrick Maxwell (London, UK), Paul McLoughlin (Dublin, RoI), Anant Parekh (Oxford, UK), Julian Paton (Bristol, UK), Ulrich Pohl (Munich, Germany) *FEPS*, Frank Sengpiel (Cardiff, UK), John R. Speakman (Aberdeen, UK), and Mike Spyer (London, UK).



Registration in the entrance lobby at the ICC.

The Congress provided a state-of-the-art scientific program, with speakers selected from all over the world. The organizers also arranged for enjoyable entertainment to relax attendees in the evenings as they reflected on the debates and arguments of the day. The debates held during the Congress served as a great celebration of the vibrancy of the work of physiologists.

The organizers arranged the program to demonstrate that interpretation of function at all biological levels was essential to understanding the vast amount of data that has emerged from sequencing genomes, cataloging proteins and their actions, unraveling biochemical networks, and discovering the often unexpected facts about life on earth.



IUPS 2013: Congress Dinner – The Congress Dinner in the Mall at the ICC celebrated cuisine and culture from England, Ireland, Scotland, and Wales.

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Experimental Biology 2014

Experimental Biology 2014 April 26-30, 2014, San Diego PHYSIOLOGY PLATFORM SESSIONS

Saturday, April 26, 2014

Room		
Ballroom 20A	5:30 PM-6:30 PM Physiology in Perspective – The Walter B. Cannon Memorial Award Lecture Anderson	
Room 22	3:00 PM-5:00 PM NCAR Section's DataNCARnation Haack\Dick	
Room 23	9:00 AM-11:30 AM MCS President's Symp I: Innovative Approaches to Microvascular Science Frisbee	2:00 PM-5:00 PM MCS President's Symp II TBD
Room 24	8:00 AM-12:00 PM <i>APS Education Comm:</i> Refresher Course on Exercise Physiology: The Role of Exercise in Disease Prevention, Treatment, and Optimal Aging Henige\Clark	3:15 PM-5:30 PM WEH Section Trainee Award Finalists Session and Data Diuresis
Room 25B	1:00 PM-3:00 PM <i>Animal Care & Experimentation Comm Symp:</i> Administrative Burden: Mitigating the Impact on Research Edwards	
Room 25C	3:00 PM-5:00 PM <i>Communications Comm Symp:</i> Storytelling: Mandatory Training for Today's Scientists Goodman	
Room 26	1:00 PM-3:00 PM <i>Workshop:</i> Translation of Cardiovascular Endpoints Across Species Northcott	3:15 PM-5:15 PM <i>Workshop:</i> Computational Modeling Solomon

Sunday, April 27, 2014

Room	8:00-10:00 AM	10:30 AM-12:30 PM	3:15-5:15 PM
Ballroom 20A		<i>Cross Sectional Symp: Sex Differences in Physiology and Pathophysiology</i> Yosten\Lindsey	3:15 PM-5:15 PM <i>President's Symp Series – Early Life Origins of Adult Disease</i> Lang 5:45 PM-6:45 PM Henry Pickering Bowditch Award Lecture Nakamura
Room 22	<i>PG FT: Epigenetics and Epigenomics</i> Liang	<i>CAMP Section Symp: Establishing Epithelial Cell Polarity</i> Praetorius\Parsons	<i>E&M Section Symp: Diabetes-related Contractile Dysfunction of the Heart: Clinical Implications, Underlying Molecular Mechanisms, and Exercise-Related Cardio-protection</i> Essop\Willis
Room 23	<i>NCAR Section Symp: Is the Kidney a Key Sensory Organ in Neurogenic Cardiovascular Disease?</i> Knuepfer\Osborn	<i>CV Section Symp: Emerging Concepts in Inflammation: Roles of Intravascular Leukocyte Crawling, Pericytes, and Generation of Sequential Chemoattractant Waves to Instruct Neutrophil Trafficking</i> Korthuis\Nourshargh	MCS Landis Award Lecture
Room 24	<i>Physiologists in Industry Comm Symp: NO, CO and H₂S: Toxic Gases, Gasotransmitters and Therapeutic Targets</i> Olson\Clark	Teaching Section Bernard Lecture Carroll	2:00 PM-3:00 PM CAMP Section Davson Lecture Frizzell 3:15 PM-4:15 PM WEH New Investigator Award Lecture 4:15 PM-5:15 PM WEH Section Starling Lecture Jacob
Room 25A	<i>WEH Section FT: Novel Role of Hormones in Trauma</i> Uyehara\Hinojosa-Laborde	<i>NCAR Section Trainee FT</i> Vincent\Lazartigues	<i>NCAR FT: Diverse Effects of Angiotensin Peptides on Autonomic Regulation in Health and Disease</i> Sabharwal

Experimental Biology 2014

Sunday, April 27, 2014 – *continued*

Room	8:00-10:00 AM	10:30 AM-12:30 PM	3:15-5:15 PM
Room 25B	<i>Teaching Section FT: Using Retrieval Practice and Other Advances from Cognitive Science to Enhance Student Learning</i> Dobson\Wenderoth	<i>Hypoxia Symp: Adaptations in the Oxygen Transport System at Altitude: Is Polycythemia Helpful or Harmful?</i> Simonson\Wagner	<i>BMES Symp: Frontiers of Cellular and Molecular Imaging for Cardiovascular Research</i> Hsiai\Wang
Room 25C	<i>SEBM Symp: Bridging Career Pathways for an Evolving Biomedical Workforce</i> Friedlander\Gaskins	<i>Publications Comm Symp: Publishing 101: How to Get Your Work Published and Avoid Ethical Minefields</i> Raff\Scherman	<i>Teaching Section Symp: On the Origin of Science Faculty with Education Specialties (SFES): Perspectives on Their Roles and Tensions</i> Pelaez\Anderson
Room 26	<i>Cross Sectional Symp: Sleepless in San Diego: Is Sleep Deprivation the New Silent Killer?</i> Carter\Van Cauter	<i>CNS Section FT: Sympathetic Mechanisms in the Etiology of Obesity-related Hypertension</i> Sartor\Stocker	<i>Resp Section Symp: The preBötzinger Complex: Where are We 25 Years Later?</i> Fortin
Room 27	<i>AFMR Symp: Nucleic Acid Aptamers: An Emerging Frontier in the Diagnosis and Treatment of Disease</i> Miller\Giangrande	<i>Renal Section FT: Hypoxia as a Unifying Mechanism for Kidney Disease</i> Palm\Wilcox	<i>Renal Section Symp: Renin-Angiotensin-Aldosterone System Regulation of the Sodium Chloride Cotransporter</i> Ko\Subramanya
Room 28A	<i>CV Section FT: Sex/Gender Influences on the Cardiovascular System</i> Hamblin\Fu	<i>CV Section Symp: Perivascular Adipose Tissue in Vascular Health and Disease: Friend or Foe?</i> Tune\Gollasch	<i>CV Section Symp: Hematopoietic Stem Cells Give Rise to Inflammation in Cardiovascular Disease</i> Lindsey\Nahrendorf
Room 28B	<i>CV Section Symp: Pericyte-Endothelial Interactions</i> Bearden\Mayo	<i>Resp Section Symp: Crossing the Epithelium: New Insights into Pulmonary Barrier Function and Transepithelial Transport</i> Sidhaye\Blazer-Yost	<i>CNS Section Symp: Epigenetic Regulation of CNS Function</i> Martin

Monday, April 28, 2014

Room	8:00-10:00 AM	10:30 AM-12:30 PM	3:15-5:15 PM
Ballroom 20A	AJP: Lung Symp Bioengineering the Lung: From Myth to Reality Prakash\Stenmark	NCAR Symp: Autonomic Regulation of the Immune System in Health and Disease Abboud\Zubcevic	<i>President's Symp Series: Life at Extremes: Adaptations to Diverse Challenges to Normal Homeostasis</i> Samson
Room 22	CV Section FT: Vascular Remodeling and Stiffening in Cardiovascular Pathology: Commonalities and Differences Trask\Fleenor	Hypoxia FT: Influence of Maturation on Cell- and Systems-level Hypoxic Behaviors Solomon\Wilson	CAMP Section Symp: HVCN1 Physiology and Consequences O'Connor
Room 23	AFMR Symp: Bioactive Lipids in Lung Inflammatory Diseases Zhao\Natarajan	CV Section FT MicroRNAs – Novel Regulators of the Cardiac Remodeling Process Bagchi\Czubryt	3:15 PM-4:15 PM CNS Section Erlanger Lecture Levin
Room 24	8:00 AM-10:00 AM NCAR Section Ludwig Lecture Raizada 9:00 AM-10:00 AM NCAR Section Minisymposium Raizada	10:30 AM-11:30 AM E&M Section Berson Lecture Elias	2:00 PM-3:00 PM EEP Section Adolph Lecture Jackson 3:15 PM-4:15 PM Renal Section Gottschalk Lecture Wall
Room 25	WEH Section FT: Water and Electrolyte Homeostasis: Physiology and Pathophysiology Cunningham	WEH Section FT: Hypertension: Mechanisms and Consequences Gottlieb	WEH Section Symp Under Stress: Endoplasmic Reticulum Stress and Apoptosis in Cardiovascular and Renal Disease De Miguel\Spradley
Room 25B	Renal Section FT: Abstract- driven	GIL Section FT Intestinal and Liver Stem Cells: Physiology, Pathophysiology and Nutrition Lund\Ney	NCAR Section FT Sex Matters When it Comes to Blood Pressure Regulation Joyner
Room 25C	Teaching Section Symp MCAT 2015 Update: Are We ready? Silverthorn\Galey	CEP Section FT: Abstract- driven Trainee FT Contreras\Rees	CEP Section FT: Comparative Physiology of Aging and Senescence Roberts\Kirkton

Experimental Biology 2014

Monday, April 28, 2014 – continued

Room	8:00-10:00 AM	10:30 AM-12:30 PM	3:15-5:15 PM
Room 26	<i>BMES Symp: Advances in Bioengineering and Regenerative Medicine</i> Christman\Leach	<i>Renal Section Symp</i> Advances in Regulation of Epithelial Transport by Protein Glycosylation Chen\Hughey	<i>CV Section FT</i> Kaley Lecture and Short Complementary Talks Zucker\Koller
Room 27	<i>EEP Section FT: Pregnancy and Exercise</i> Newcomer	<i>MCS Young Investigator Symp</i>	<i>BMES Symp: Biophysical Regulation of Stem Cells and Cancer</i> Engler\Kumar
Room 28A	<i>CAMP Section FT: Ion Channels and Transporters in Health and Disease</i> Hamilton\Greenlee	<i>CAMP Section FT: Cellular Interaction of the Microbiome and Eukaryotic Cell Function</i> Worrell\Bomberger	<i>Resp Section FT: Genetic Manipulation in Respiratory Control: Basic Science to Clinical Trials</i> Fuller
Room 28B	<i>Resp Section FT: New Insights into the Chemical Control of Breathing and Blood Pressure</i> Moreira\Mulkey	<i>CNS Section FT: CNS Control of Feeding and Metabolism</i> Madden	<i>Resp Section Symp: The Enigma Variations: The Many Faces of the Myofibroblast in Fibrotic Disease</i> Chambers\Mercer
Room 9	<i>PG Group: Trainee Highlights in Physiological Genomics</i> Joe\Klemcke		

Tuesday, April 29, 2014

Room	8:00-10:00 AM	10:30 AM-12:30 PM	3:15-5:15 PM
Ballroom 20A	<i>NIH/NIAID Symp: Scavenger Receptor Biology and Nomenclature</i> PrabhuDas\El Khoury	<i>Cross Sectional Symp: Origins of Hypertension: The CNS, the Kidney and Beyond</i> Wainford	3:15 PM-5:15 PM <i>President's Symp Series Symp: Physiological Relevance of the Intestinal Microbiome: Moving Beyond the Gut</i> Lund 5:45 PM-7:30 PM APS Business Meeting
Room 22	<i>ETG FT: Regulation of Epithelial Transporters, Paracellular Transport, and Regulatory Proteins</i> Hamilton\Marunaka	<i>MBG Symp: Muscle Fatigue: A Cross Discipline Approach</i> Karatzafieri\Geeves	<i>ETG Symp: Trafficking in Epithelial Cells</i> Levi\Klein
Room 23	<i>GIL Section Session</i> McCole\Uno	<i>E&M Section Symp: Novel Aspects of G Protein-coupled Receptor Signaling</i> Samson\Sandberg	2:00 PM-3:00 PM GIL Section Davenport Lecture Ghishan 3:15 PM-4:15 PM CEP Section Krogh Lecture. Supported by Novo Nordisk Foundation Carey
Room 24	<i>J Phys, PhysSoc/APS Symp: Insights Gleaned from Pharmacogenetic Dissection and Modeling of Cardio-respiratory Neural Networks</i> Paterson\Paton	10:30 AM-11:30 AM Resp Section Comroe Lecture Mitchell	2:00 PM-3:00 PM CV Section Berne Lecture Somers 3:15 PM-5:15 PM <i>Cross Sectional Symp: New Perspectives on Regulation, Interaction, and Noise Found in Physiological Systems</i> Mellen\Ben-Tal
Room 25A	<i>PG Symp: Cellular Adaptation and Survival to Hypoxic Conditions: Epigenetic Mechanisms</i> Klemcke\Wang	<i>WEH Section FT: Adverse Perinatal Environment and Priming of Metabolic and Cardiovascular System to Chronic Disease</i> Loria\Ho	<i>E&M Section Symp: Cardiometabolic Consequences of Sleep Deficiency and Circadian Disruption</i> Broussard\Knutson

Experimental Biology 2014

Tuesday, April 29, 2014 – continued

Room	8:00-10:00 AM	10:30 AM-12:30 PM	3:15-5:15 PM
Room 25B	<i>Renal Section FT: Abstract-driven</i>	<i>GIL Section FT: Organoid Culture Systems: An Innovative Research Tool for the Study of Gastrointestinal Development, Physiology and Disease</i> Zavros	<i>Renal Section Symp: Tumor Necrosis Factor: A Two-faced Cytokine?</i> Ramseyer\Ferreri
Room 25C	<i>Careers in Physiol Comm Symp: Conscious Choice and Serendipity in Your Career Trajectory: A Panel Discussion</i> Leon>Wehrwein	<i>CEP Section Symp: Organismal Adaptation/Response to Hypoxic Environments</i> Williams\McDonald	<i>EEP Section FT: Defining the Thermoneutral Zone of Laboratory Mice</i> Gordon
Room 26	<i>CEP Section Symp: RNAseq Approaches to Understanding Extreme Physiological Adaptations</i> Warren\Buck	<i>CV Section FT: Wiggers Award FT: Mechanisms of Local Regulation of Blood Flow</i> Chilian	<i>CAMP Section, AJP:Cell Symp: Tissue Fibrosis: General Mechanisms with Variations on a Theme</i> Insel\Lotersztajn
Room 27	<i>E&M Section FT: Inflammation in Beta Cell Dysfunction: From Mouse to Man</i> Corbett	<i>NCAR Section FT: Sympathetic Vascular Transduction: Bridging the Divide in Blood Pressure Regulation</i> Fadel\Fairfax	<i>CV Section Symp: Novel Mechanisms of Transcriptional Regulation in Cardiac Hypertrophy</i> Medford\Marsh
Room 28A	<i>EEP Section FT: AltitudeOmics 2012</i> Roach	<i>CAMP Section FT: Cell Signaling: Pathways and Proteins</i> Bradbury	<i>CNS Section Symp: Recent Advances in Hypothalamic Signaling Mechanisms in Health and Disease States</i> Stern\Johnson
Room 28B	<i>CV Section FT: Therapeutic Targets for Diabetic Cardiomyopathy</i> Davidoff\Ritchie	<i>EEP Section Symp: Heat Stress and Compromised Blood Pressure Control: Cardiovascular, Cerebral, Cutaneous and Respiratory Considerations</i> Low\Crandall	<i>Resp Section FT: Signaling in Pulmonary Hypertension</i> Bonnet\Paulin
Marriott Marquis, Room TBD			1:00 PM-2:00 PM <i>History Group Lecture</i> Javitt

Wednesday, April 30, 2014

Room	8:00-10:00 AM	10:30 AM-12:30 PM	2:30-4:30 PM
Ballroom 20A	CARnet Symp: Cerebral Autoregulation in Pathological Conditions		4:45 PM-5:45 PM President's Symp Series: APS Nobel Lecture in Physiology or Medicine Beutler
Room 22	Resp Section Symp: Airway Defnsive Reflexes: Ex Vivo, In Vivo, In Silico and Translation to Bedside Bolser\Pitts	10:30 AM-12:30 PM ETG FT: Regulation of Epithelial Ion and Water Channels, and Regulatory Proteins Cai\Rao	2:30 PM-4:30 PM Cross Sectional Symp: Sialic Acids: How Glycans Impact Human Physiology and Disease Bode
Room 23	8:00 AM-10:00 AM CV Section Symp: Sex Disparities in Cardiovascular Disease: Implications for Prevention, Prognosis, and Treatment Goulopoulou\Altara	MBG FT: Muscle Loss in Diabetes: Not Your Same Old Sarcopenia Brozinick	
Room 24	NCAR Section FT: Carotid Body Chemoreceptors: Beyond the O ₂ Frontier Johnson\Limberg	CV Section FT: Cell Therapy versus Non-cellular Therapy for Myocardial Repair Kloner\Liao	
Room 25A	GIL Section Symp: Unlocking the Molecular Mechanisms of Liver Cancer Wang\Lu	History Group Symp: Historical Perspective of Peripheral and Central Chemoreception of Hypoxia and Hypercapnia Ramirez	MBG FT: Ambient Hypoxia, Muscle Mass Control and Energy Metabolism Beaudry
Room 25B	E&M Section FT: Brown and Beige Adipose Tissue: New Insights into Primary Targets for Obesity Prevention Symonds	CARnet Symp: Autonomic and Other Control of the Cerebral Circulatio	CARnet Symp: Cerebral Autoregulation – The Quandary of Quantification
Room 25C	EEP Section Symp: The Regulation of Anabolic Signaling in Skeletal Muscle: The Integration of Mechanical, Metabolic and Inflammatory Stimuli White	EEP Section Symp: Adaptations of Mitochondrial Oxidative Phosphorylation to Changing O ₂ Microenvironments Clanton\Gladden	EEP Section Symp: Molecular Mechanisms of Muscle Atrophy Hood

Experimental Biology 2014

Wednesday, April 30, 2014 – continued

Room	8:00-10:00 AM	10:30 AM-12:30 PM	2:30-4:30 PM
Room 26	<i>Translational Phys Group Symp: Organ Injury in Diabetes</i> Sharma\Schmidt	<i>BMES Symp: Spatial-Temporal Control of Cellular Behaviors</i> Qutub\Duber	
Room 27	<i>CV Section FT: Thin and Thick Filament Regulation of Cardiac Sarcomere</i> Lucchesi\Sadayappan	<i>GIL Section Symp: From Friend to Foe: The Emerging Role of Intestinal Pathobionts in the Etiopathogenesis of Disease</i> Devkota\Carey	<i>Exp Physiol, PhysSoc Symp: Physiological and Pathophysiological Signaling Between the Gut and the Kidney: Role in Diabetic Kidney Disease</i> le Roux
Room 28A	<i>Women in Physiol Comm Symp: Ahead of the Curve: Taking the Lead</i> Appleyard\Urso	<i>Trainee Advisory Comm, Publications Comm Symp: The Other Side of the Submit Button: The Ins and Outs of the Manuscript Review Process</i> Nichols\Greenlee	<i>CV Section Symp: New Mechanisms of Heart Failure Based on Protein Misfolding</i> Del Monte\Gottlieb
Room 28B	<i>ALACF Symp: New Insights in Vascular Biology</i> Machado\Iturriaga	<i>Resp Section FT: Important Signaling Networks for the Structure and Function of Airway Smooth Muscle Cells</i> Wang\Pabelick	<i>CV Section FT: Novel Mechanisms of Diabetic Cardiac Dysfunction</i> Bradley\Gardner
Room 15B		12:00 Noon-4:30 PM <i>NASA Symp: Space Research and Opportunities</i>	

Chapter News

The 2013 Annual Meeting of the Nebraska Physiological Society

The Annual meeting of the Nebraska Physiological Society (NPS) was held on Friday, October 4 at Mammel Hall on the campus of University of Nebraska in Omaha, Nebraska. The meeting became the 16th annual meeting of the NPS. The meeting was, in part, financially supported by the American Physiological Society (APS), AD Instruments, Kent Scientific Corporation, Transonic, and Fisher Scientific.

Ninety registered individuals, including undergraduate and graduate students, postdoctoral fellows, and faculty members, participated in the scientific/educational conference. Overall, institutions from Nebraska, South Dakota, and Iowa were represented.

The scientific/educational sessions began with opening remarks from Keshore Bidasee, President of the NPS from University of Nebraska Medical Center. Following Bidasee's introductory remarks, the NPS-sponsored keynote address was made by Jonathan Aaltonen, from Reproductive Sciences Lab at Henry Doorly Zoo. His presentation was entitled "A Walk on the Wild Side: An Alternative Career Path in Physiology." The presentation was followed by a break, in which attendees were able to visit exhibitor booths and view posters.

Then, NPS student oral presentations were given: two oral presentations were selected before the meeting from undergraduate, graduate, and postdoctoral categories based on merit. The first presenter was Dylan Goto, an undergraduate student from Creighton University. His talk was entitled "Lipid Digestion and Absorption are Impaired During an Alphavirus Infection in Nestling Birds." The second presenter was Kelsey Stark, an undergraduate student from Doane College. Her talk was entitled "Investigation of Methylation Status of the N-Cadherin Gene in Cancer Cell Lines From Prostate, Ovarian, and Breast Cancers." The first graduate student presenter was Shuai Li, from University of South Dakota. His talk was entitled "A Proteasome Inhibitor Attenuates Angiotensin II-Induced Hypertension and Associated Vascular Remodeling via Inhibition of Vascular Smooth Muscle Proliferation." The second graduate student presenter was Peter Pellegrino, from University of Nebraska Medical Center. His talk was

entitled "Central rho Kinase Inhibition Attenuates the Pressor Effect of Central Angiotensin-II in Conscious Rabbits." The first postdoctoral presenter was Rodrigo Del Rio, from University of Nebraska Medical Center. His talk was entitled "Selective Carotid Chemoreceptor Ablation Improves Survival Rate, Breathing Disorders and Autonomic Control in Experimental Heart Failure." The last presenter was Donghai Wen, a postdoctoral from University of Nebraska Medical Center. His talk was entitled "Deficiency in NECE2 Causes Distal Renal Tubular Acidosis."

Lunch followed the student and postdoctoral presentations. During the AD Instruments-sponsored lunch period, Lynsey Simon, a representative from AD Instruments, gave a talk entitled "New Wireless and



Donghai Wen accepting award



Dylan Goto poster



Wine and cheese social

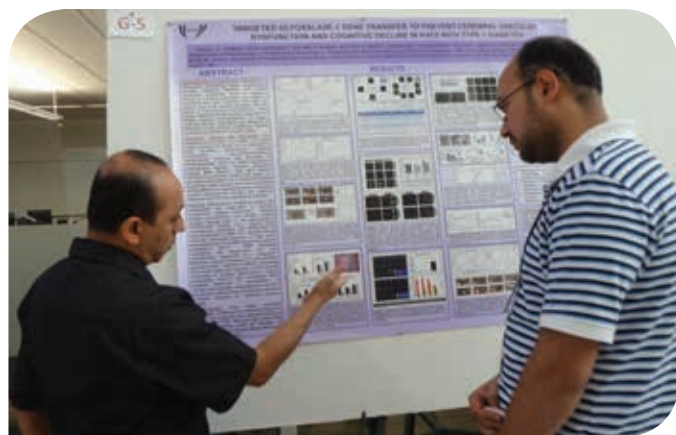
Feedback Control Options Using the PowerLab Data Acquisition System."

The afternoon sessions commenced with the APS-sponsored Advocacy address by William Talman, from Department of Neurology, University of Iowa. Talman's talk was entitled "Speak for Yourself." Following Talman's presentation, Jeffrey French, from Department of Psychology, University of Nebraska Omaha, gave the NPS-sponsored keynote address. His talk was entitled "Social Neuroscience: Neuroendocrine Substrates of Sociality in Marmoset Monkeys."

After the afternoon presentations, three concurrent breakout sessions took place. Myron Towes, from University of Nebraska Medical Center, coordinated a workshop for the students about "Poster/Presentation Skills Lecture Taught Using APS Resources." The second workshop for postdoctoral was organized by Irving Zucker, from University of Nebraska Medical Center, was

entitled "How to do a Chalk Talk." The third workshop was "Building NPS Networks Between Physiologists and Students" conducted by Karla Haack, from University of Nebraska Medical Center. The breakout sessions were very well attended and produced a great deal of discussion and interest. This was followed by a 1-hour period devoted to poster viewing.

The afternoon session concluded with student awards and recognitions. The award recipients received certificates and monetary awards of \$100 and a \$400 travel award (first place), \$50 (second place). The first-place winner of undergraduate students was Dylan Goto from Creighton University. The second-place winner of undergraduate students was Kelsey Stark from Doane College. The first-place winner of the graduate division was Peter Pellegrino from University of Nebraska Medical Center. The second-place winner of the graduate division was Shuai Li from University of South Dakota. The first-place postdoctoral winner was Rodrigo Del Rio, from University of Nebraska Medical Center. The second-place postdoctoral winner was Donghai Wen, from University of Nebraska Medical Center.



Fadhel Alomar poster



Krysten Fries poster

At the conclusion of the meeting, the NPS business meeting was called to order and was chaired by NPS President Keshore Bidasee. An update on the APS Chapter Advisory Committee activities was reported by Harold Schultz, from University of Nebraska Medical Center. This was followed by an update on outreach activities over the past year reported by Karla Haack. NPS Secretary/Treasurer Hong Zheng, from University of Nebraska Medical Center, then gave the treasurer's report. Bidasee presented the Past-President Award to Barbara Engebretsen, from Wayne State College for her service to the NPS. The NPS council members for 2013-2014 were then announced: president, Carol Fassbinder-Orth, Creighton University; past-president, Keshore Bidasee; president-elect, Doug Martin, University of South Dakota; councilors, Matthew Zimmerman, University of Nebraska Medical Center, Babu Padanilam, University of Nebraska Medical Center, Lie Gao, University of Nebraska Medical Center; student councilor, Urmi Basu, University of Nebraska Medical Center; secretary/treasurer, Hong Zheng; executive director, Cindy Norton, CAP-OM. Final remarks were then made by Bidasee, and the meeting was adjourned. ●

Chapter News

Gulf Coast Physiological Society Chapter: 7th Annual Meeting Summary

The seventh meeting of the Gulf Coast Physiological Society (GCPS) took place at the Renaissance Riverview Plaza Hotel in downtown Mobile, AL from May 31 to June 1, 2013. The meeting was hosted by the University of South Alabama (USA) College of Medicine. Mark Taylor led the organizing committee from USA, which included Thomas Lincoln, Mary Townsley, and Troy Stevens.

There were a total of 88 attendees at the meeting, including 31 faculty, 21 postdoctoral fellows, 28 graduate students, and 8 undergraduates. The attendees represented six different institutions, including USA, the University of Mississippi Medical Center (UMMC), Louisiana State University-New Orleans (LSU-NO), Louisiana State University-Shreveport (LSU-S), Tulane School of Medicine, and Mississippi State University. The GCPS 2013 meeting was sponsored by the American Physiological Society, the University of South Alabama College of Medicine, Nikon USA, and Kent Scientific.

The meeting opened with a keynote presentation by David Busija, Chair of Pharmacology at Tulane School of Medicine. A diverse group of physiology researchers and trainees participated in sessions that included five invited talks from early career faculty (new assistant professors) representing four regional institutions and an interactive poster session featuring 59 presenters, ranging from undergraduates and technicians to senior investigators. This year's meeting also featured a trainee competition

in which six talks were selected from submitted abstracts (three graduate students and three postdoctoral fellows). Ashlyn Harmon (UMMC) won the graduate student competition, and Peter Hosick (UMMC) won the postdoctoral competition.

The GCPS business meeting was held at the end of the first day of the meeting. The chapter was updated on recent activities, including the development of a LinkedIn page and the receipt of a chapter grant from the American Physiological Society. The results of the ballots for the new officers were announced and approved by the attendees. The officers of the GCPS are as follows:

President: Jason Gardner, LSU-NO (2015)
 Treasurer/secretary: Jenny Sasser, UMMC (2015)
 Councilor: Mark Taylor, USA (2015)
 Councilor: Karen Stokes, LSU-S (2017)
 Councilor: Milton Hamblin, Tulane (2017)
 Trainee Member: Jessica Bradley, LSU-NO (2015)

As part of the business meeting, a motion was made and carried for LSU-S to serve as the next host for the GCPS meeting in 2015. Following the business meeting, USA hosted a banquet for the attendees. The meeting concluded with an open forum for trainees to ask about careers to funding status. The panel consisted of Joey Granger (UMMC), Mary Townsley (USA), and Michael Ryan (UMMC). ●

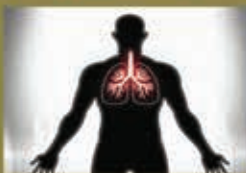
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COMPARATIVE
2014
PHYSIOLOGY

APS Intersociety Meeting: Comparative Approaches to Grand Challenges in Physiology
San Diego, CA • October 5-8, 2014

Please join us for the 2014 APS Intersociety Meeting. The theme of the meeting will be "Comparative Approaches to Grand Challenges in Physiology." Comparative physiology takes advantage of the diverse evolutionary histories and ecological settings of animals. By definition, comparative physiology is broad, spanning a variety of animal taxa occurring in diverse environmental settings, and studied at many levels of biological organization (from molecular physiology to physiological ecology). This breadth allows comparative physiology to (a) understand basic physiological processes and (b) identify novel mechanisms used by animals to solve specific physiological challenges.

This meeting will draw comparative and evolutionary physiologists from around the world to present and discuss recent advances in animal physiology. The three and a half day meeting will feature 15 symposia, 2 plenary lectures, 2 workshops, and multiple sessions for contributed abstracts as oral or poster presentations. This meeting will include the 2014 Scholander Award competition for young comparative physiologists, plus other trainee awards and activities.



the-aps.org/comparative

Education

Call for Undergraduate Summer Research Fellowship Applications and Research Hosts

APS is honored to have been awarded grant funds to support three undergraduate researchers and to develop innovative initiatives to promote the recruitment and retention of underrepresented minority (URM) students in research careers, in addition to the two APS-funded undergraduate research programs. Students may submit an identical application for as many of the fellowships for which they are eligible and for which their research fits within the specified areas. However, students will only be allowed to accept one fellowship. The programs are detailed below.

Undergraduate Summer Research Fellowships (24 Fellowships)

These fellowships support full-time, first- through third-year undergraduate students with minimal research experience to work 10 weeks in the laboratory of an established APS investigator and to attend the following year's Experimental Biology meeting. The program is open to any undergraduate worldwide. Fellows receive a \$4,000 stipend and up to \$1,300 in reimbursement for EB travel (\$1,800 for overseas students); hosts receive a \$300 unrestricted grant.

Application deadline: February 1.
the-aps.org/ugsrf

Undergraduate Research Excellence Fellowships (6 Fellowships)

These fellowships support full-time, second- through fourth-year undergraduate students with significant research experience to work for 10 weeks in the laboratory of an established APS investigator and to attend the following year's Experimental Biology meeting. The program is open to any undergraduate worldwide. Fellows receive a \$4,000 stipend and up to \$1,300 in reimbursement for EB travel (\$1,800 for overseas students); hosts receive a \$300 unrestricted grant.

Application deadline: February 1
the-aps.org/ugsrf

STEP-UP Fellowships for Underrepresented Undergraduate Students (Up to 24 Fellowships)

These fellowships support full-time undergraduate U.S. students from groups traditionally underrepresented in biomedicine (e.g., from disadvantaged backgrounds and certain racial and ethnic groups, and individuals with disabilities) to work for 8-12 weeks in the laboratory of an established APS investigator working in an National Institute of Diabetes and Digestive and Kidney Disease-related area. Students will also attend a STEP-UP symposium at the end of the summer with other STEP-UP fellows from across the U.S. Fellows receive a \$3,500 stipend and reimbursement for travel to the STEP-UP meeting. Funding for the program is provided by the APS and a grant from the National Institute for Diabetes and Digestive and Kidney Diseases (1R25 DK-095492-01).

Application deadline: February 15
the-aps.org/stepup

STRIDE Fellowships for Underrepresented Undergraduate Students (Up to 24 Fellowships)

The APS STRIDE fellowship provides hands-on summer research experience for underrepresented undergraduate students interested in exploring biomedical research careers. The program provides exposure to the core National Heart, Lung, and Blood Institute (NHLBI) mission areas of cardiovascular, pulmonary, hematologic, and sleep disorders research. Fellows receive a \$4,000 stipend to work for 10 weeks in the laboratory of an APS member and up to \$1,200 in reimbursement for EB travel; hosts receive a \$500 unrestricted grant. Accommodations are available for students with disabilities. The STRIDE program is supported by the APS and a grant from the National Heart, Lung and Blood Institute (1 R25 HL-115473-01).

Application deadline: February 1
the-aps.org/stride

Continued on Page 52

APS Online Interviewing Skills and Writing for Scientific Journals Courses Help Trainees Prepare for Future Careers

APS offered three Online Professional Skills Training courses this summer and fall to help trainees prepare for their future career paths: Interviewing for an Academic Position, Interviewing for an Industry Position, and Writing and Reviewing for Scientific Journals.

Six individuals took part in the 10-day Interviewing for an Academic Position online course. In this course, participants learn how to write a cover letter, CV, teaching statement, and research statement. Additionally, participants learned how to prepare for the job search, interview, job talk, and negotiate. Participants who successfully completed the course were APS members Laura Gilliam, Guillaume De Lartigue, Anna Leal, Erik Nelson, and Audrey Stone. APS would like to thank Lila LaGrange (University of the Incarnate Word) and Thomas Pressley (Texas Tech University Health Science Center) for serving as instructors. The next Interviewing for an Academic Position Online Course will take place May 8-18, 2014.

Seven individuals took part in the 10-day Interviewing for an Industry Position online course. In this course, participants learn what to expect in an industry position, the basics of the industry job search, how to prepare application materials, and how to prepare for the

interview and job offer. Participants who successfully completed the course were APS members Stan Andrisse, Gustavo Ares, Justin Fletcher, Eric Freese, Rugmani Iyer, Andrew Kelleher, Rhianna Laker, and Anna Leal. APS would like to thank Rebecca Persinger (Grifols, Inc.) and Maria Urso (Arteriocyte) for serving as instructors. The next Interviewing for an Industry Position online course will take place September 11-21, 2014.

Eight individuals from the United States and Puerto Rico took part in the 6-week Writing and Reviewing for Scientific Journals online course. During this course, participants receive feedback on their first-author draft manuscript while learning how to write all parts of the manuscript, handle authorship issues, and respond to reviewer comments. Participants who successfully completed the course were APS members Heather Dehlin, Qiying Fan, Jacqueline Minas, Paulo Pires, and Jose Quidgley, as well as Rui Sá. APS would like to thank Susan Barman (Michigan State University) and Andrew Roberts (University of Louisville). The next Writing and Reviewing for Scientific Journals online course will take place June 23 to August 8, 2014. ●

For more information about these courses, please visit www.the-aps.org/PST or e-mail education@the-aps.org.

Education

Update: Collaborative Effort to Broaden Participation

APS, along with the Council on Undergraduate Research (CUR) and The Leadership Alliance (TLA), proposed a novel pilot project that specifically links the resources of the three professional societies to develop innovative initiatives that will address the recruitment of undergraduate underrepresented minority (URM) students into graduate programs in integrative organismal systems (IOS) fields and the retention of URM graduate students and postdoctoral researchers in IOS fields. The initiatives concentrate on key transitions of the educational pathway—advanced undergraduates, early graduate students (within the first 2 years of graduate school), and the progression of postdoctoral researchers into faculty careers. APS, CUR, and TLA will leverage our resources to develop innovative programming designed to identify URM talent in IOS fields and provide mentoring at the successive stages of the academic pathway to ensure a successful transition from one educational milestone to the next. Specifically, CUR, TLA, and APS will build a diverse community of faculty and administrators committed to, and educated in, effective practices in recruiting and retaining individuals from URM groups in IOS fields; increase interest in and awareness of IOS careers among URM undergraduate and graduate students; enhance and expand professional development training for underrepresented minorities in IOS research fields by leveraging the professional expertise of CUR, TLA, and APS; and evaluate program outcomes and disseminate effective practices.

Since our last update, APS has participated in: 1) PI planning meeting to kick off the grant and 2) institute planning meeting in Charlotte, NC.

The PI planning meeting took place on October 22, 2012 and allowed the three collaborating societies to better acquaint each other with their respective programs and plans for the grant. Communication methods were implemented to allow for the three organizations to effectively manage the grant. At the planning meeting, it was decided to hold a 2-day meeting for the proposed CUR Institute to bring together interested parties to assist in the planning process.

The institute planning meeting was held on March 22–23 at Johnson C. Smith University in Charlotte, NC. Staff and members of the three organizations along with University leaders brainstormed ideas and topics for the proposed institute. Johnson C. Smith University agreed to host the institute as a previous CUR institute site. Plans are being finalized for the institute, which will be held in March 2014. Watch for additional information on the institute in the APS eNewsletter, via social media and other listservs. ●

For more information about this collaborative effort, visit <http://bit.ly/1fzB5Kq> or contact the Education Office at education@the-aps.org.

New Regular Members

Transferred from student membership

Vishal Agrawal

Adimab LLC, Lebanon, NH

Lorena M. Amaral

Univ. of Mississippi Medical Center,
Jackson, MS

Kieran Brack

Univ Leicester, Leicester, UK

David Brooks

East Texas Baptist Univ., Marshall, TX

Ann M. Caplea

Walsh Univ., North Canton, OH

Chung-Ho Chang

Natl. Hlth. Res. Inst., Miaoli County,
Taiwan

Olga Chechneva

Univ. California Davis, Davis, CA

Huaping Chen*

Univ. of Alabama-Birmingham,
Birmingham, AL

Paul Martin Coen

Translational Res. Inst.-Florida Hosp.,
Orlando, FL

Sean M. Collins

Umass Lowell, Lowell, MA

Andrew Thomas Del Pozzi*

New York Medical College,
Hawthorne, NY

Laura J. Den Hartigh

Univ of Washington, Seattle, WA

Seth Tyler Fairfax*

Univ. of Maryland, Baltimore, MD

Amy Leanne Firth

The Salk Inst., La Jolla, CA

Qiushi Fu

Arizona St. Univ., Chandler, AZ

Jose O. Garcia-Colon

Univ. of Puerto Rico at Carolina,
Carolina, PR

Mitchell Glickstein

Univ. College London, UK

Kyle Johnson-Vincent Hackney*

North Dakota St. Univ., Fargo, ND

Jane Emily Hill

Dartmouth College, Hanover, NH

Sabine Huke

Vanderbilt Univ., Nashville, TN

C. David Ianuzzo

Liberty Univ., Lynchburg, VA

Daria Ilatovskaya*

Medical College of Wisconsin,
Milwaukee, WI

Eric Guy James

Univ. of Texas at Brownsville,
Brownsville, TX

Mayumi Kajimura

Keio Univ. Sch. of Med., Tokyo, Japan

Sarinee Kalandakanond-Thongsong

Chulalongkorn Univ., Bangkok,
Thailand

Md Abdul Hye Khan

Medical College of Wisconsin,
Milwaukee, WI

Gilbert R. Kinsey

Univ. of Virginia, Charlottesville, VA

Willian Seiji Korim

Univ. of Melbourne, VIC, Australia

Sanjay S. Kumar

Florida St. Univ. Coll. of Med.,
Tallahassee, FL

Natasha Kumar

Univ. of Virginia, Charlottesville, VA

Hicham Labazi

West Virginia Univ., Morgantown,
WV

Regent Laporte

Ferring Res. Inst., San Diego, CA

Mark Kenneth Larson

Augustana College, Sioux Falls, SD

Debra Laskin

Rutgers Univ. Sch. of Pharmacy,
Piscataway, NJ

Jie Liu

Texas Health Presbyterian Hosp.,
Dallas, TX

Carey N. Lumeng

Univ. of Michigan, Ann Arbor, MI

Kebreten Fikrte Manaye

Howard Univ., Washington, DC

John McCarron

Univ. of Strathclyde, Glasgow, UK

Danielle J. McCullough*

Providence VA Med. Center,
Providence, RI

Arthur Joseph McCullough

Cleveland Clinic, Cleveland, OH

Edward K. Merritt

Appalachian St. Univ., Boone, NC

Hiroshi Nishiyama

Univ. of Texas at Austin, Austin, TX

Krishnan Padmanabhan

Salk Inst. for Biological Studies, La
Jolla, CA

Kathleen C. Page

Bucknell Univ., Lewisburg, PA

Jean F. Regal

Univ. of Minnesota Med. Sch. Duluth,
Duluth, MN

Buel Dantese Rodgers

Washington St. Univ., Pullman, WA

Robert Sachdev

Yale Sch. of Med., New Haven, CT

Madhurima Saha

Geisel Sch. of Med. at Dartmouth,
Hanover, NH

Manish Kumar Saraf

Univ. of Texas Med. Br.-Shriners Hosp.
for Children, Galveston, TX

Pallabi Sarkar

Weill Cornell Medical College,
New York, NY

David Schachter

Columbia Univ. College of P & S,
New York, NY

Amin Shah

Univ. of Alberta, Edmonton, AB,
Canada

Kristopher Silver

Kansas St. Univ., Manhattan, KS

Liz Simon

Louisiana St. Univ.-Hlth. Sci. Ctr.,
New Orleans, LA

Nathan Andrew Tullos

Univ. of Mississippi Med. Ctr., Jackson,
MS

Sudhakar Veeranki

Univ. of Louisville, Coll. of Med.,
Louisville, KY

Predrag Vujovic

Belgrade Univ. Faculty of Biology,
Belgrade, Serbia

Anton J.M. Wagenmakers

Liverpool John Moores Univ.,
Liverpool, UK

Courtney M. Wheatley*

Mayo Clinic, Rochester, MN

Yuechi Xu

Univ. of Oklahoma Hlth. Sci. Ctr.,
Oklahoma City, OK

Salah Zaghoul

Zagazig Univ., Zagazig, Egypt

New Graduate Students**Lindsey J Anderson**

Univ. Southern California, CA

Matthew Brook

Nottingham Univ., UK

Sara Desideri

Univ. Bristol, UK

Jonathon Paul Fanning

The University of Queensland,
Australia

Davide Filingeri

Loughborough Univ., UK

Greg J Grosicki

Ball State Univ., IN

Clark T. Holdsworth

Kansas State Univ., KS

Pin Li

Indiana Univ., Purdue Univ., IN

Brian Lin

Loyola Univ. Chicago, IL

Roxana Loperena

Vanderbilt Univ., TN

Christina M. Mackay

Univ. of Alberta, Canada

Molly McNamara

Univ. of Colorado, CO

Ryan Kenneth Perkins

Ball State Univ., IN

Paula Poh

Univ. of Illinois at Urbana-Champaign,
IL

Corey Rennolds

Univ. of Maryland, MD

Adlin Raquel Rodriguez

Univ. of Puerto Rico, Puerto Rico

Benjamin Joseph Ryan

Univ. of Colorado Boulder, CO

Younghwa Shin

Univ. of Oklahoma Health Science
Center, OK

Shani Stern

The Weizmann Inst. of Science, Israel

Jalessa Wright

Univ. of Alabama at Birmingham, AL

Joe Wu

East Tennessee State Univ., TN

Miguel Augusto Zarate

Univ. of Florida, FL

New Undergraduate Students**Sarah El-Azab**

Univ. of Florida, FL

Maxwell Thomas Laws

Wayne St. Univ. Sch. of Med., MI

Ellen Marie Maue

Indiana Univ., IN

Samuel Joseph McCright

Oberlin College, IA

Sean Thomas Rayle

Arizona St. Univ., AZ

Clarissa Paula Ribeiro Diniz

Juniata College, PA

Oliver Henry Wearing

Univ. of Manchester, UK

New Affiliate Members**Anson Blanks**

Medstar Washington Hospital Center,
DC

Christine Ross Earls

Fairfield University, CT

Jinxu Liu

Univ. of Nebraska Medical Center, NE

Calliandra M. Lombard

Univ. South Carolina Sch. of Medicine,
SC

Nestor Rodriguez-Alayo

National Univ. Pedro Ruiz Gallo, Peru

Recently Deceased Members**William C. Stanley**

Sydney, Australia

People and Places

Gunter-Smith Inaugurated as York College President

APS member Pamela Gunter-Smith was inaugurated as the president of York College of Pennsylvania on October 19, having served as president since July 1, 2013. Gunter-Smith had previously served as Drew



Pamela Gunter-Smith

University's provost and academic vice president, and as the porter professor of physiology at Spelman College. She also held academic appointments at George Washington University and the Uniformed Services University of the Health Sciences. Gunter-Smith also served as a research scientist and science administrator at the Armed Forces Radiobiological

Research Institute before joining Spelman. Gunter-Smith was a William Townsend Porter Fellow while working on her graduate degree and served the society as co-chair of the Porter Physiology Development Committee. She currently serves on the Board of Directors of the William Townsend Porter Foundation.

In assuming the presidency, Pamela Gunter-Smith became the first African-American woman and only the fourth president of York College of Pennsylvania (YCP), which was founded in 1968. If one goes back to the origin of YCP as the York County Academy, founded in 1787, Gunter-Smith would be its 15th president. Today, York College offers more than 50 baccalaureate majors to 4,600 undergraduate students, as well as master's programs in business, education, and nursing, and a doctorate in nursing practice. ●

Marder Elected to IOM

APS member Eve Marder, Brandeis University, was one of the 70 new members and 10 foreign associates whose election was announced at the 43rd annual meeting of the Institute of Medicine (IOM). IOM's total membership is 1,966. Election to the IOM is considered one of the highest honors in the fields of health and medicine, and recognizes individuals who have demonstrated outstanding professional achievement and commitment to service.

Marder, the recipient of numerous scholarly awards, was elected to the National Academy of Sciences in 2007 and served as president of the Society for Neuroscience in 2007-2008. Earlier this year, she was appointed to the scientific group leading the BRAIN (Brain Research through Advancing Innovative Neurotechnologies) initiative, a \$100 million effort spearheaded by the White House to revolutionize our understanding of the brain. ●

Conn Named Vice President

P. Michael Conn has been named the senior vice president for research and associate provost of the Texas Tech University Health Science Center. Conn will also serve as a professor in the School of Medicine's Department of Internal Medicine, with a joint appointment in the Department of Cell Biology and Biochemistry. He joins TTUHSC from the Oregon Health and Science University, where he currently serves as the director of research advocacy and professor of physiology and pharmacology, obstetrics, and gynecology, and cell biology and development. In addition, he serves as senior scientist of the Oregon National Primate Research Center. ●

News from Distinguished Physiologists

Letter to Kenneth Baldwin



Wang being honored by CAMS in 2011

Hsueh hwa Wang writes: "Thank you very much for your letter of October 10 with the birthday greetings. I am indeed very surprised and very honored to now be a Senior Physiologist. Attached herewith is my curriculum vita and a brief bio, as you have requested, as well as a letter to state what I am now doing.

"What can be in a 90-year-old woman's routine that might interest others? As stated in my bio, I now am totally retired from my professional life when I retired, this year, as the executive director of CAMS (Chinese American Medical Society). I live alone in this rather large house in a quarter-acre lot that I moved into 50 years ago when my youngest child just started to walk. I still tend to all the chores (mowing the grass, sweeping the leaves, tending the garden, etc.) but I will not shovel the snow any more. I drive locally and to NYC, but no more long-distance driving. I am pretty active, playing tennis twice a week. My children want to curtail my activities, with good intentions, but I'd rather keep doing whatever I can for as long as I can.

"I have many friends, some are colleagues who became close friends over the years. I believe 'sincerity' is the best quality one can find in a real friendship. A sincere friend will come to me even after years of separation. And, in the work place, as in CAMS where I volunteered my service for 27 years, many colleagues also work voluntarily. We thrive and, although we ran into difficult times, 'volunteerism' prevails. We only have skeletal administrative help; the bulk of work is accomplished through the voluntary contributions of our members. Our Society has grown since its inception in 1964 from a handful of people to over 1,000 members in 2013. We are celebrating our 50th year this November with a book *CAMS at 50*, which is now at the printer. We are very proud of the 'volunteerism' of our members: no one ever received any monetary compensation.

"I have no more words of wisdom for our younger colleagues. However, I would like to indulge myself in appending a few photos here. The first is a family reunion photo taken at my son's home in Berkeley, CA, in 1998, celebrating my 50th wedding anniversary. My husband, Shih-hsun Ngai, anesthesiologist, died of lung cancer in the following year, shortly before his 80th birthday. I miss him so. The next picture was taken in 2011 at the University Club in New York City, during a party organized by CAMS to honor my 25 years as executive director. You can see me standing in front of the plaque in the picture. The last picture is a family photo taken at my 90th birthday in the restaurant where we had dinner. All except my younger grandson came. I was flanked by my two daughters, Mae (at my left), professor of history at Columbia, Janet (at my right), physical therapist in rural Virginia. My son John, professor of neurosciences at UC Berkeley, is at the right end in the front row, with his wife Lisa, also a neuroscientist, and their daughter Julie, a college student. Their older daughter, Stephanie, next to Janet, is a graduate student at Columbia. Janet's husband David Harris, landscape gardener, is at her back with their older son Evan, a mechanical engineer. Next to Evan is Michael Hing, lawyer, Mae's son. Michael's wife, Tammy Wong, also a lawyer, is at the left end of the front row. To the left of Michael is John New, Administrative Patent Judge and Mae's significant other." ●



Wang's 50th wedding anniversary celebration

Hsueh Hwa Wang Biography

For more than a quarter century, from 1986 until 2012, The Chinese American Medical Society (CAMS) has had the good fortune of being managed by an executive director of almost unbelievable energy and drive, and wide experience in the matters of CAMS, Hsueh hwa Wang.

Wang was born in Beijing, attended the National Central University Medical School, and graduated from there in 1946. She came to New York City soon after, had some postgraduate training, then joined the Pharmacology Department at the College of P & S, Columbia University, where she rose to the rank of professor. Her research was in the field of physiology and pharmacology of the coronary circulation. From 1985 to 1990, she was the director of graduate studies in the department.

At the same time, Wang was active in CAMS, becoming president in 1982, and accepting the unpaid position of executive director in 1986. After her retirement from Columbia in 1990, she was able to devote much of her free time to CAMS, arranging full-day scientific meetings, fund-raising dinners, donation of scholarships for medical students, and other activities that bolster a spirit of camaraderie among its members. She was also one of the prime organizers of FCMS (Federation of Chinese

American and Chinese Canadian Medical Societies) in 1994, and later the FCMS Foundation whose prime function is to raise funds for FCMS. She was president of FCMS in 2000, chairman of the board in 2002, and has been the secretary/treasurer of FCMS Foundation until the present day.

In 1991, she was given the Outstanding Women Scientist Award by the New York Chapter of Association for Women in Science. And in 2011, she received a Lifetime Achievement Award from CAMS, honoring her 25 years of meritorious service as executive director.

To complete Wang's essential biography, her husband of 50 years, Shih-hsun Ngai, died in 1999. Ngai was professor and chairman of anesthesiology at Columbia University and Presbyterian Hospital, and member of Academia Sinica in Taiwan. Wang has three children: Mae M. Ngai, The Lung Family Professor of History at Columbia University; Janet Ngai, physical therapist in Nelson County, VA; and John Ngai, the Coats Family Professor of Neurosciences at UC Berkeley. She also has five grandchildren and two great-grandchildren. ●



Wang's 90th birthday celebration

News from Distinguished Physiologists

Letter to Kenneth Baldwin

Esther Lubzens writes: "Thanks for your warm greetings on the occasion of my birthday. It was a very nice surprise.

"I retired in 2010 from the Israel Oceanographic and Limnological Research Institute, since it is mandatory to do so in government agencies. I was very lucky to be able to join the Faculty of Biology at the Technion Israel Institute of Technology that is also located in Haifa, where I live. A year before my due retirement date, Prof. A. Admon, the head of the Smoler Proteome Center at Technion, with whom I have collaborated for several years, asked me if I would consider "active retirement" at their department, and Prof. G. Schuster (the dean of the faculty at that time) officially invited me to join the department in April 2011 as a visiting professor, and my contract now is until April 2015. My status is somehow similar to that of Technion's retired professors; I can submit research proposals and participate in other academic activities but am not employed by Technion and do not receive financial support for research or travel funds.

"As you will see below, my activities at Technion are a direct continuation of my previous life style, except I do not have an active lab or the assistance of students, technicians, etc., and therefore some of the tasks take much longer or are very limited in comparison to the past. Mainly, I collaborate with younger colleagues and concentrate on high-throughput analyses, since this can be done with a computer in my office.

"My activities since retiring include:

1) Heading two national evaluation panels for research grants (in 2012, nominated by the chief scientist of the Ministry of Science and Technology) and participating in an ad hoc national committee (2013; nominated by the chief scientist of the Ministry of Agriculture) for evaluation of research projects and identifying topics for a new call of research projects in aquaculture in Israel.

2) Prepared and taught (autumn term 2012/2013) a new course for graduate students on Dormancy and Cell Preservation. The aim of this course was to demonstrate the wide scope of the phenomena of dormancy displayed by a wide range of organisms, from prokaryotes to

hibernating bears, and the lessons that are applied in preservation of cells. The course concentrated on highlighting common and specific cellular mechanisms that are associated with this phenomenon and was a continuation of an EU-funded project I coordinated between 2005 and 2008 that culminated in the publication of a book (Lubzens E, Cerdà J, Clark MS. *Dormancy and Resistance in Harsh Environments*. Berlin: Springer-Verlag, 2010, 283 p.). This course will be given every two years.

3) Publication of original research articles.

a) Clark MS, Denekamp NY, Thorne MA, Reinhardt R, Drungowski M, Albrecht MW, Klages S, Beck A, Kube M, Lubzens E. Long-term survival of hydrated resting eggs from *Brachionus plicatilis*. *PLoS One* 7: e29365, 2012.

b) Levi L, Ziv T, Admon A, Levavi-Sivan B, Lubzens E. Insight into molecular pathways of retinal metabolism, associated with vitellogenesis in zebrafish. *Am J Physiol Endocrinol Metab* 302: E626 – E644, 2012.

c) Boschetti C, Carr A, Crisp A, Eyres I, Wang-Koh Y, Lubzens E, Barraclough T, Micklem G, Tunnacliffe A. Biochemical diversification through foreign gene expression in bdelloid rotifers. *PLoS Genet* 8: e1003035, 2012.

d) Lotan, T, Chalifa-Caspi V, Ziv T, Brekhman V, Markovich Gordon M, Admon A, Lubzens E. Evolutionary conservation of the mature oocyte proteome (submitted).

"I am currently preparing three additional manuscripts for publication; one of them is a review on vitamin A and reproduction in fish. Since I work most of the time on my own, this takes much longer than in the past.

4) Research grants.

"A research proposal I submitted last year to the Israel Science Foundation was funded recently for three years. The project is titled: 'Capturing the Initial Stages During Entry and Exit From Dormancy in Hydrated Resting Egg of an Aquatic Invertebrate.' This means that I will return to do lab work with one research assistant.

Continued on Page 41

Letter to Terry Dwyer

Peter Lauf writes: “Indeed, it borders impoliteness that I did not reply to the most gracious letter you sent for my 80th birthday on August 31. When I explain to you what is happening in the life of a ‘Sage,’ I hope you will understand why only now I respond.

“It turns out that age has not prevented me from being extremely busy. Let me be more specific.

“First, I came back from a big trip to Europe, where, in Rome, I attended the wedding of my oldest daughter Cornelia (a professor of art history), and, together with her sister Bettina, my son Adrian, and his bride, I attended a huge family reunion in Wuerzburg, the town in which I was born in 1933.

“At the time your letter arrived, I was immersed in trying to submit an NIH grant for the October deadline. However, despite working hard with my graduate student, we did not get to the point of showing the crucial proof of concept, which only now seems to be coming forth. Concept of what? Since some 2 years ago, I have returned full circle to work on the Na/K pump, work on which I left in 1978 to devote myself to the discovery of the KCC, the K-Cl cotransporter that now plays such an important role in translational medicine and physiology. What I have been absorbed with are the ‘after eureka tremors’ that the Na/K pump exhibits BH1 canonical motifs, which are homologous to those of Bcl-2 proteins and thus squarely puts this key ion transporter into the cellular processes that decide cell life and death (see Lauf PK, Heiny J, Meller J, Lepera MA, Koikov L, Alter GM, Brown TL, Adragna NC. Canonical Bcl-2 motifs of the Na/K pump revealed by the BH3 mimetic chelerythrine: early signal transducers in apoptosis? *Cell Physiol Biochem* 31: 257-276, 2013).

“Second, in mid-October, we attended the Ohio Physiological Society (OPS) at Neomed in Rootstown, OH, a society I founded in 1986 with the help of Marty Frank. What a stellar event. There was a lecture by Nobel Laureate F. Murad, and there were, I am sure, >100 young physiologist from all over Ohio listening and presenting their work in posters and talks. Gary Meszaros did an incredible job as President.

“Third, for my 80th birthday, I retreated with Norma Adragna, my long-time devoted wife and unique research collaborator, to a place way up in the Smokies to converse with the great Priest of the Universe. Upon our return, one commitment was to prepare to perform with a violinist Dvorak’s Opus 75, Romantic Pieces for Piano and Violin, at the end of October. And a second commitment was to prepare to give a major lecture in the Department of Cancer Biology and Biochemistry at the University of Toledo Medical Center. This was a wonderful trip, as I met my old friend in the field of the Na/K ATPase, Amir Askari, who still keeps moving being 2 years older than me, as well as – and perhaps more importantly – lots of young folks from whom I learned how to move on with our own discovery and into the future given to me. We always build upon others, an age-independent phenomenon. . . .

“I might point out that I am active, despite the fact that 5 years ago I retired from my paid position as university professor. By giving back from the well of my life’s experience to the young ones, teaching in the lab and in the classroom (Socratic Dialogues in Student’s Science Projects, in a Brown Bag Conference every 2 weeks, called BBC) I stay young and still contribute to our understanding of the cellular basis of life.

“As I now prepare for the February NIH deadline, other ‘pressures’ come to bear on me: keeping physically fit, because winter is ahead, which for me means skiing in the Rockies along the great runs in Utah, a tradition I cannot let go, especially since our son Adrian, now on the faculty of engineering at Louisville, KY, always accompanies me into these celestial heights. Life is good!

“I would be more than happy to participate in a published dialog to encourage those who follow us to keep moving forward. After all, a fundamental ‘leit motif’ in my life is from the Genesis (Jo, I, 1-14) of the old Ordo missae: ‘. . . et vita erat lux hominum: et lux in tenebris lucet, et tenebrae eam non comprehenderunt. . . .’ which more or less means, ‘we are the light for others in the darkness, but the darkness does not understand this’ (should not be considered a political statement©).” ●

News from Distinguished Physiologists

William Hansel, Discoveries at Age 95

On September 12, William Hansel, celebrated his 95th birthday. Hansel is professor of animal physiology at Louisiana State University Pennington Biomedical Research Center, Baton Rouge, LA, a position he has held since his “retirement” from Cornell University in 1990. After a memorable career researching and teaching reproductive physiology, Hansel redirected his research efforts toward cancer biology and therapy. In this area, his expertise in endocrinology and peptide biochemistry provided a firm foundation for advances in cancer therapy. For example, Hansel and coworkers demonstrated that conjugates of cell membrane disrupting lytic peptides and luteinizing hormone releasing hormone (LHRH) will target and destroy human LHRH receptor expressing prostate and breast

cancer cells of xenografts in the nude mouse model. Therapeutic agents based on this discovery are now in Phase II clinical trials. Recently, Hansel’s laboratory synthesized a bioconjugate of LHRH analog ([DLys(6)]-LHRH) and a dietary microchemical (curcumin) and found that [DLys(6)]-LHRH-curcumin targets and inhibits pancreatic cancer cell growth in vitro and in vivo.

As a productive and well funded investigator at age 95, Hansel is an inspiration to scientists of all ages. More about Hansel’s remarkable career can be found at <http://www.the-aps.org/mm/Membership/Living-History/Hansel> and at *Annual Review of Animal Biosciences* 1: 1-20, 2013. ●

Continued from page 40: Letter to Keneth Baldwin

“I recently submitted a research application with a US scientist to BARD (Binational Agricultural Research & Development Fund) and will be a partner in a joint research application to the Ministry of Science and Technology.

5) Participation in an EU-funded project.

I am one of two national representatives for the following project: AQUAGAMETE – assessing and improving the quality of aquatic animal gametes to enhance aquatic resources – the need to harmonize and standardize evolving methodologies, and improve transfer from academia to industry. This is a Food and Agriculture COST action FA1205 EU project (<http://aquagamete.webs.upv.es/>). I am currently serving on the editorial panel for publications of reviews (in 2014/2015) on fish reproduction and fish gamete cryopreservation methods.

6) Review tasks.

a) Reviewing manuscripts: I reviewed over 15 manuscripts during the last year for journals such as *Biology of*

Reproduction, Molecular Reproduction and Development, General Comparative Endocrinology, Plos One, Aquaculture, Aquaculture Research, Fish Biochemistry and Physiology, Marine Biology, J Experimental Zoology, Comparative Physiology, and Biochemistry.

b) Theses: one PhD thesis and one Master thesis.

c) Book outline for publication.

7) Joint work with a commercial company in Norway: I spent two weeks (March 2013) in Norway developing a method for cryopreservation of zooplankton together with a local commercial company.

“Finally, I miss participating in international scientific meetings a lot, and applying to your fund will greatly assist in this direction.

“Thanking you again for approaching me, and please inform me whether I can be of any assistance to the APS.” ●



SAVE THE DATE!

April 26-30, 2014

San Diego Convention Center, San Diego, CA



Join the American Physiological Society (APS) at Experimental Biology 2014! EB 2014 is on track to be one of the largest to date. Scientists and researchers in the fields of: anatomy, physiology, biochemistry, pathology, nutrition, and pharmacology will meet in San Diego to discuss the strides and contributions made to the field of science. The 2014 meeting will feature over 400 booths, plenary award lectures, pre-meeting workshops, oral and poster presentations, and on-site career services.

Benefits of Attending Experimental Biology:

- One registration fee to access 6 collective society meetings in one location
- More than 50 concurrent scientific sessions open to all attendees featuring the latest in Life Sciences disciplines
- Stay up-to-date on the latest technology and trends by visiting over 400 exhibit booths
- 4 days of poster sessions offer the opportunity to network and exchange innovative ideas
- Over 90 award programs and travel funding opportunities, plus poster competitions (awards vary by society)
- Network with a diverse audience of scientists and researchers from more than 65 countries

Visit the On-Site Career Center

Enhance your professional development skills with more than 30 sessions, networking events, and workshops.

The career development events are included with your registration fee and are exclusive to EB 2014 attendees.

And, don't miss the "Write Winning Grants"® Seminar — advance registration required!

Complimentary Registration Available

Undergraduates, high school students, and teachers sign up in advance for complimentary registration.

Proper credentials must be provided on-site at the meeting to verify status. Visit the website for more information.



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2014

San Diego

Annual Meeting of Sponsoring Societies:



www.experimentalbiology.org

Positions Available

Instructor/Assistant/Associate Professor: The University of Central Arkansas Department of Physical Therapy invites applications for a tenure- or nontenure-track position at the rank of instructor, assistant or associate professor beginning as early as June 1, 2014. Successful applicants will possess a PhD or clinical doctorate in physiology, pharmacology, physical therapy, or a related field, and have demonstrated competence in teaching one or more of the following: human physiology, pharmacology, pathology, gross anatomy, imaging. Preference will be given to candidates who also possess experience teaching in more than one of the listed areas. Successful tenure-track candidates will have established or demonstrated the potential to develop an independent research program capable of attracting extramural funding. Numerous opportunities exist for collaborative research with department and local medical school faculty members, and with faculty members at other area institutions. Departmental research interests include prevention of the sequelae of diabetes, management of spasticity following spinal cord injury, musculoskeletal examination techniques, and pain management in neonates. Tenure-track status, rank, and salary are commensurate with experience and qualifications. Founded in 1907, UCA is an accredited, comprehensive university with approximately 11,500 students and high academic standards. The campus is noted for its beauty and is conveniently located in Conway, Arkansas, a city of approximately 60,000, located 30 miles from Little Rock, the state capital. The Department of Physical Therapy is housed in a modern, 40,000-ft.² building devoted exclusively to physical therapy instruction and research. More information about the university and the department can be found at <http://www.uca.edu/pt>. The mission of the Department of Physical Therapy is to develop outstanding physical therapy professionals and scholars, and to model excellence in education, research, and service. Our principles and values focus on lifelong personal and professional development, autonomous practice, service to humanity and the profession, and the seven core values of professionalism. Review of applications will begin October 15, 2013 and will continue until position is filled. Interested applicants should send a letter of interest, CV, and list of three references to Kevin Garrison, PhD, PT Chair, Faculty Search Committee, University of Central Arkansas, Department of Physical Therapy, 201 Donaghey Ave., Physical Therapy Bldg., Suite 300,

Conway, AR 72035-0001; voice: 501-450-5559, fax: 501-450-5822; e-mail: kgarrison@uca.edu. The University of Central Arkansas is an Equal Opportunity Employer. This search will be conducted in compliance with the Arkansas Freedom of Information Law.

Assistant Professor, Psychology: The Psychology Department at the State University of New York, College at Plattsburgh, invites applications for a 10-month, tenure-track faculty position at the rank of Assistant Professor in Psychology with training in the fields of Clinical Psychology, Clinical Neuropsychology, Developmental Psychology, or School Psychology preferred. This position is expected to begin Fall 2014. Primary responsibilities for this position will include teaching at least two courses per semester (biopsychology, neuropsychology, and other courses associated with the candidate's expertise), engaging graduate students and undergraduate students in clinical and research endeavors, and working with clients in the Neuropsychology Clinic. Postdoctoral supervision for licensure is available on site. This position includes the possibility of optional clinical work during the summer that would generate extra service salary. The successful candidate is expected to have completed his/her doctorate in a psychology program. The candidate must have demonstrated clinical expertise and teaching ability. A doctoral degree is required for appointment at the rank of Assistant Professor. The preferred candidate will have his or her doctorate from a clinical, neuropsychology, developmental, or school psychology program. Candidates who have EPPP New York State licensure or are eligible to take the EPPP licensure exam before the time of their appointment are preferable. Reappointment after the second year is contingent upon successful completion of the NYS licensing exam in psychology. SUNY Plattsburgh is an equal opportunity employer, committed to excellence through diversity. Salary: \$58,000 minimum, plus excellent benefits. Review of applications begins immediately and continues until the position is filled. Please apply to <http://jobs.plattsburgh.edu/postings/4872> and include a cover letter of interest, which includes a statement of teaching philosophy, CV, unofficial graduate transcript, and three letters of recommendation from professional colleagues who have served either as peers or supervisors for academic and/or clinical experiences. Candidates are encouraged to provide reprints or pre-prints of their research and evidence of postdoctoral training or

experience in clinical psychology/neuropsychology. Official transcripts from an accredited institution will be required before employment.

Assistant Professor, Psychology (Branch Campus): The Psychology Department at the State University of New York, College at Plattsburgh, invites applications for a tenure-track faculty position at the rank of Assistant Professor in Psychology. The successful candidate will join other full-time faculty in the Psychology program at our Branch Campus in Queensbury, NY. We seek an individual with training in Developmental Psychology, Counseling Psychology, Clinical Psychology, or a closely associated area of expertise. Candidates must have a doctorate before appointment for the Fall 2014 semester. The successful candidate will teach undergraduate courses, which may include beginning level courses, advanced courses, seminars, or a practicum supervision course, depending on program need and candidate expertise. Excellence in teaching and research productivity are required for reappointment, promotion, and tenure. Scholarly activity that engages students in meaningful roles is highly desirable. A doctoral degree is required for appointment at the rank of Assistant Professor. The ideal candidate will demonstrate a passion for teaching and scholarship, as evidenced by materials such as student ratings, innovative teaching, and a history of visible and productive scholarship. SUNY Plattsburgh is an equal opportunity employer, committed to excellence through diversity. Salary: \$48,000 minimum, plus excellent benefits. Review of applications begins immediately and continues until the position is filled. Please apply to <http://jobs.plattsburgh.edu/postings/4873> and include a cover letter of interest, which includes a statement of teaching philosophy, CV, unofficial graduate transcript, and three letters of recommendation from professional colleagues. Candidates are encouraged to provide reprints or pre-prints of their research. Official transcripts from an accredited institution will be required before employment. ●



Weill Cornell Medical College in Qatar

FACULTY POSITION

In a pioneering international initiative, Cornell University and Weill Cornell Medical College established the Weill Cornell Medical College in Qatar (WCMC-Q) through a unique partnership with the Qatar Foundation for Education, Science and Community Development. In operation since 2002, in Doha, Qatar, WCMC-Q seeks candidates for a faculty position to teach:

PHYSIOLOGY

We are seeking a physiologist, with a thorough understanding of organ systems physiology, who will teach human physiology and will contribute to team-taught courses for medical students, using an array of teaching methods, including problem based learning (PBL), and newer methods, such as the "flip classroom" and more, at various stages in the medical program. While proficiency in all areas of human physiology is required, preference will be given to candidates with teaching experience in the areas of cardiovascular, pulmonary, endocrine and metabolism. It is expected that the successful candidate will take on a leadership role in the continuing development of the pre-clinical curriculum.

Candidates should have a Ph.D. in Human Physiology or its accepted equivalent, a record of excellence in teaching and scholarship, and a minimum of five years of significant teaching experience preferably in a medical school curriculum, although teaching experience in undergraduate courses will be considered. Preference will be given to applicants who demonstrate their strong leadership skills in developing and delivering a physiology curriculum in an academic medical center in the United States or its equivalent; who provide evidence of their successful involvement in the development and delivery of innovative approaches to teaching; and who demonstrate their strong record of excellence in and commitment to teaching.

WCMC-Q and Weill Cornell Medical College in New York share the same mission: to provide the finest education possible for medical students, conduct research at the cutting edge of knowledge, improve health care, both now and for future generations, and provide the highest quality of care to the community. Full details regarding the WCMC-Q program and facilities, including affiliations with ACGME-I accredited clinical sites, can be accessed at <http://qatar-weill.cornell.edu>.

A comprehensive and highly competitive salary and foreign-service benefits package, including fully furnished housing and other supplementary benefits, is provided. The appointment will be on a non-tenure track and is normally for three years in the first instance, renewable by mutual agreement.

Qualified applicants are invited to submit a letter of application outlining their interest in the position and how their skills and experience match WCMC-Q's requirements, along with a full curriculum vitae, at:

<http://job.qatar-weill.cornell.edu>

Please note that due to the high volume of applications, only short-listed candidates will be contacted. The Search Committee will begin reviewing applications immediately and will continue until the position is filled.

Cornell University is an equal opportunity, affirmative action educator and employer.

**FACULTY POSITIONS
MISSISSIPPI CENTER FOR OBESITY RESEARCH
University of Mississippi Medical Center**

Applications are invited for tenure track faculty positions with state salary support in the **Mississippi Center for Obesity Research (MCOR), University of Mississippi Medical Center (UMMC)**. Applicants will be considered for ranks of assistant, associate or full professor and must have a Ph.D. and/or M.D. degree with appropriate postdoctoral research experience. Academic appointments of MCOR faculty will be in one of the basic science or clinical departments in the School of Medicine. Successful candidates will have significant extramural research funding with demonstrated scholarly productivity in obesity-related basic, clinical or population research. Special consideration will be given to candidates with a strong background in neuroscience, endocrinology or genetics and their application to nutrition, obesity and metabolic disorders. Successful candidates will be able to devote at least 90 percent effort to developing their research programs. The large group of researchers working in the area of obesity-associated cardiovascular, renal and metabolic diseases offers excellent opportunities for collaboration. The MCOR offers excellent core facilities and generous laboratory space in the new state-of-the-art Arthur C. Guyton Research Center. MCOR faculty members will receive competitive salaries and excellent start-up packages. UMMC has an outstanding research incentive plan for investigators with extramural grant funding. The MCOR, a new multidisciplinary research initiative at UMMC, is leading a state-wide effort to translate research results into programs that prevent and more effectively treat obesity and related metabolic diseases. UMMC has committed substantial resources to the MCOR which is poised for significant growth. Additional information about the MCOR can be found at the web site: <http://www.umc.edu/mcor/>. Jackson and the surrounding communities have a moderate climate, low housing costs and excellent schools. Information about the Jackson metro area can be found at: <http://www.visitjackson.com/Visitor-Guides>.

Applicants should send curriculum vitae, a statement of research plans and current extramural research funding to: Dr. John E. Hall, Director, Mississippi Center for Obesity Research, University of Mississippi Medical Center, 2500 North State Street, Jackson, MS 39216-4505. [e-mail: jehall@umc.edu](mailto:jehall@umc.edu). All applications will be treated confidentially.

Equal opportunity employer, M/F/D/V.

**UNIVERSITY OF MISSISSIPPI MEDICAL CENTER
Faculty Positions in Physiology & Biophysics**

Applications are invited for tenure track faculty positions with state salary support in the **Department of Physiology & Biophysics at the University of Mississippi Medical Center**. Applicants will be considered for ranks of assistant, associate, or full professor and must have a Ph.D. and/or M.D. degree with appropriate postdoctoral research experience. Successful candidates will have significant extramural research funding and demonstrated scholarly productivity. We are seeking individuals who have research interests that complement existing areas of excellence in cardiovascular, renal, and neuroendocrine physiology, and the pathophysiology of obesity, metabolic, cardiovascular and kidney diseases. Successful candidates will devote at least 90% effort to developing a nationally recognized research program. The large group of physiologists in the department offers excellent opportunities for collaboration at molecular, cellular, or systems levels of integration. The department offers generous laboratory space and excellent core facilities in the new state-of-the-art Arthur C. Guyton Research Center. Faculty members receive highly competitive salaries and excellent start-up packages. Additional information about the department and its faculty can be found at the web site: <http://physiology.umc.edu/>. Jackson, the state capital of Mississippi, and the surrounding communities have a moderate climate, low housing costs and excellent schools. Additional information about the Jackson metro area can be found at: <http://www.visitjackson.com/Visitor-Guides>.

Applicants should send a curriculum vitae and current extramural research funding to: Dr. John E. Hall, Department of Physiology and Biophysics, University of Mississippi Medical Center, 2500 North State Street, Jackson, MS 39216-4505. All applications will be treated confidentially. [e-mail: jehall@umc.edu](mailto:jehall@umc.edu).

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Meetings & Congresses

February 8-9

Studying Behavior Through a Cross-Disciplinary Integration of Techniques, Galveston, TX. *Information:* Antonio Serrato and Christopher Cunningham, Chairs. E-mail: gaserrat@email.unc.edu or cbc83@uga.edu; internet: http://www.grc.org/programs.aspx?year=2014&program=grs_genes

February 8-9

Oxygen Radicals Seminar – (Patho)physiology of Redox Processes, Ventura, CA. *Information:* Katarzyna A. Broniowska and Anne R. Diers, Chairs. E-mail: kbroniow@mcw.edu or adiersdranka@mcw.edu; internet: http://www.grc.org/programs.aspx?year=2014&program=grs_oxy

February 9-14

Emerging Model Species, Technologies and Analyses Facilitating Integrative Research, Galveston, TX. *Information:* Allen J. Moore, Chair. E-mail: ajmoore@uga.edu; internet: <http://www.grc.org/programs.aspx?year=2014&program=genes>

February 9-14

Oxygen Radicals – From Detection to Disease, Ventura, CA. *Information:* Ronald P. Mason and Alicia J. Kowaltowski, Chairs. E-mail: mason4@niehs.nih.gov or Alicia@iq.usp.br; internet: <http://www.grc.org/programs.aspx?year=2014&program=oxygenrad>

March 1-2

Role of FGF Signaling in Tissue Regeneration and Metabolic Control, Ventura, CA. *Information:* ElieEl Agha and Chiara Francavilla, Chairs. E-mail: elieagha@gmail.com or Chiara.francavilla@cpr.ku.dk; internet: http://www.grc.org/programs.aspx?year=2014&program=grs_fgf

March 2-7

Emphasis on the Role of FGFs in Metabolism Regulation and Tissue Regeneration, Ventura, CA. *Information:* Saverio Bellusci and Fen Wang, Chairs. E-mail: saverio.bellusci@innere.med.uni-giessen.de or fwang@ibt.tahsc.edu; internet: <http://www.grc.org/programs.aspx?year=2014&program=fgf>

March 13-15

The Power of Programming 2014 – International Conference on Developmental Origins of Adiposity and Long-Term Health, Munich, Germany. *Information:* e-mail: EarlyNutrition@med.imu.de; internet: <http://munich2014.project-earlynutrition.eu/>

April 9-13

57th Annual Meeting of the Canadian Society for Molecular Biosciences – “Membrane Proteins in Health and Disease,” Banff, Alberta, Canada. *Information:* Howard Young and Joe Casey, Co-Chairs. E-mail: hyoung@ualberta.ca or joe.casey@ualberta.ca; internet: http://www.csmb-scbm.ca/meetings/57th_annual_conference.aspx

June 24-28

The International 22nd Puijo Symposium “Physical Exercise in Clinical Practise – Critical Appraisal of Randomized Controlled Trials,” Kuopio, Finland. *Information:* e-mail: saila.laaksonen@uef.fi; internet: <http://www.puijosymposium.org>

June 28-July 2

6th International Workshop on Advances in the Molecular Pharmacology and Therapeutics of Bone Disease, Oxford, UK. *Information:* internet: <http://www.oxfordbonepharm.org>

August 2-6

1st Pan-American Congress of Physiological Sciences, Iguassu Falls, Brazil. *Information:* internet: <http://panam2014.com/>

August 25-29

7th World Congress for Psychotherapy, Durban, South Africa. *Information:* Janie Koeries, Paragon-Conventions, Milnerton Mall, Loxton Rd., Milnerton, Cape Town, South Africa. Tel.: 021 552 8679; e-mail: jkoeries@paragon-conventions.com; internet: <http://www.wcp2014.com>

Continued from page 14: APS Council Meets in Virginia

reader attention to the best research articles published in the APS journals. The new initiative, called *APSselect*, will highlight the best articles from the research journals on a monthly basis.

The Education Committee reported on plans for the Professional Skills Training Courses to be held in Orlando in January. The two courses being offered are Writing and Reviewing for Scientific Journals and Professional Integrity: Best Practices for Publishing Your Work. In addition, the Writing and Reviewing Course will be offered in Brazil just before the Pan-American Congress of Physiological Sciences to be held in Iguassu Falls, Brazil. The Committee also reported that PhUn Week was shaping up to be a success, with over 14,000 students participating at 72 sites.

The Science Policy Committee asked Council to revise the number of awards associated with the Early Career

Advocacy Fellowship Program. Specifically, Council agreed to fund two awards each year for a 2-year period. The Committee also reported on its efforts to develop advocacy documents. The documents being produced include Advocacy 101 and Outreach 101, which will serve to compliment the already produced Peer Review 101. The Committee is also working with FASEB Public Affairs on an initiative designed to re-imagine NIH.

Council approved the recommendation of the Daggs Award Committee to award Gerald DiBona with the 2014 Daggs Award. The Council also approved the recommendation of the Conference Committee to approve Endothelin-14 as an APS Conference to be held in 2015.

Additional details of the Council's 2013 fall meeting will be presented to the membership at the 2014 APS Business Meeting to be held at EB14 on Tuesday, April 29 at 5:45 PM in the San Diego Convention Center. ●

Continued from page 16: APS Provides 80 Travel Awards

"For me, the best aspect was the coming together of human, clinically oriented researchers with those studying fundamental aspects of physiology in nontraditional animal models."

The presentation skills training workshop we held was very beneficial to young and even mature physiologists from resource-strained regions, and the huge turnout over the 2 days was confirmation enough that the training was relevant and necessary. I also got a chance to attend important meetings and discuss with other physiologists from across Africa on the challenges and possible solutions needed to improve physiology teaching and research in Africa. I also attended the satellite Teaching Workshop in Bristol and also benefited in my teaching skills. I learned

a lot from the keynote lectures and plenary sessions, and got a number of research ideas from colleagues. Every aspect of the Congress was of great benefit to me as a young physiologist."

"During presentation of my scientific data, I discussed with other international experts in this field and received positive feedback, which will be very helpful in formulating my future experiments."

"Being able to meet face to face with research collaborators and outline our research plan for our R01 submission and participation as a mentor in the early career symposium." ●

*Continued from page 1:***Discipuli Supra Omni Praeferuntur: Above All, the Students Come First**

I set about to create the course I always wanted to have when I was an undergraduate. With the support of the dean of Arts and Sciences (Peter Nichols) and my department heads (David Dzewaltowski, Kinesiology; Jon Dunn, Anatomy & Physiology), we recruited a cadre of excellent physiologists with expertise in muscle and cellular energetics, respiratory physiology and gas exchange, vascular control, endocrinology, and environmental physiology. We then constructed our foundational Exercise Physiology course around the expertise of these individuals – each of them teaching in their areas of interest and research. In addition, we developed a laboratory course matched to provide practical experience and demonstrations of the key principles taught. Current texts in exercise physiology have lauded this approach (1).

The success of this strategy is evidenced by the Kinesiology major growing from ~250 students to over 700 – a rate of growth many fold higher than that of KSU as a whole. Every single one of those students graduating in Kinesiology will have experienced four full professors teaching in their specialty. Our students repeatedly tell us that having had this course prepared them better than their peers in medical, physical therapy (PT), and other health care professional programs across America – those peers solicit their undergraduate notes from their KSU compatriots.

In Latin, *doctor* means teacher as distinct from physician from the ancient English *physic*, to heal. It is thus the imperative of all doctors to teach and *especially* the professor who has reached the apogee of the university faculty. To be a professor, one needs something to profess, and that is best achieved through personal research, discovery, and experience. These experiences guide, inform, and enrich the delivery of information in the classroom, laboratory, and elsewhere. In my own experience, and with this in mind, there are four key elements that can make the professor-student relationship truly extraordinary, even life-changing: There has to be an attitude of mutual respect (see Ref. 5) and the course and its delivery must be Relevant and Accurate and the students must be Challenged and Engaged (RACE).

Relevant

Who are the students, what are their backgrounds, and why are they here? Is this a course they took on a whim,

or is it central to their degree and career interests? Will this course help the students understand their world, or will it be perceived as a waste of time? Kinesiology / Physiology at KSU has established itself as the number-one pre-med, pre-PT, and overall pre-health care major. It is also foundational for those seeking careers in public health and science education, nutrition and dietetics, and the burgeoning personal fitness profession. The understanding of integrated organ and physiological function that they gain is second to none. Especially with respect to exercise physiology, the teaching of cardiorespiratory and muscle function provides a rich opportunity for practical exemplars that enrich delivery and relevance. Common points of interest arise from discussion of athletes and athletic achievements: How can extraordinary individuals do what they do? What determines athletic potential in different events? What is the genetic vs. adaptive (training) potential for cardiovascular, pulmonary, and muscle function? Most students will have relatives with cardiovascular or pulmonary disease, and physiology provides the bases for understanding the predilections of those conditions and how they impact physical (and sometimes mental) performance and quality-of-life activities. As the proud owner of a human body, each student has the imperative to learn more about its physiology: What is being controlled? How does the cardiovascular and pulmonary system respond to the demands of muscle contractions and exercise? A class of students who attempt a maximal breath-hold represents a truly captive audience that can experience first-hand the response of the central and peripheral chemoreceptors to degradation of arterial blood gas control.

Accurate

Students today can, and do, fact check in real time. Since textbooks are often several, or more, years out of date, it is the prerogative of the professor to ensure that students have the latest information and that they understand the limits of that information and the theories that give it form, structure, and relevance. Accordingly, I print out my own notes that reflect current advances and understanding. The students pay a small charge for this service, and this helps support their visiting scientist series (see below). I believe that it is crucial for the professor to help the students understand the history and philosophy of science so that the value of recent discoveries has context (see Refs. 2, 3). A professor who

has an active research program, attends national and international scientific meetings, and is current with the process of scientific discovery in his/her area brings an invaluable perspective into the classroom: he/she has something to “profess.” A professor has the mandate to maintain an open pipeline of knowledge between the students and national scientific meetings such as Experimental Biology, APS specialty, the American Heart Association, and American College of Sports Medicine. For instance, years before Furchgott, Murad, and Ignarro received their Nobel prize for the discovery of nitric oxide, our students were hearing of nitric oxide’s essential roles in cardiovascular physiology and medicine. This is essential for captivating the students’ interest and priming them for their next challenge, be it educational, professional, or both. Whenever possible, I ensure my students attend professional meetings, and, over the years, my colleagues and I have also helped facilitate numerous visits to KSU by leading scientists in their fields. Notable among these are Jerry Dempsey (respiratory physiology), Larry Sinoway (cardiovascular physiology), Jack Wilmore (health and exercise science), Glenn Gaesser (exercise biochemistry and health), Peter Raven (autonomic function), George Brooks (exercise metabolism), Peter Agre (Nobel prize, aquaporins), Gordon Mitchell (comparative respiratory physiology), Mike Reid (respiratory muscle function), and Jere Mitchell (cardiovascular physiology/pathophysiology). These individuals typically present research seminars, speak in class, and often mix socially with our students. Many future career path changes and careers have been instigated by these activities, and their ability to motivate and inspire students is fundamental to my teaching mission.

Challenging

The student who has the opportunity, indeed the likelihood, to be wrong learns more actively. Encouraging and helping students, individually and in small groups, often at the black/white/smart board, to ask their own questions and to defend their knowledge of concepts and facts will help them progress faster and more effectively. As Roger Bacon (c. 1214-1294) once said, “Truth emerges more readily from error than confusion.” Handled correctly, the opportunity for error opens students’ minds rather than clogging them. After all, the basis for “success” is the French *succedere*, meaning “what comes after.” Knowledge hard won is far more likely to be retained than that simply handed out or considered bought for the price of tuition.

Engaging

Even in these days of political correctness and delicate sensibilities, well placed humor is an effective “icebreaker” that helps facilitate communication under the mutual respect umbrella. In addition, knowing something about the students personally establishes common ground and is essential to crafting helpful explanations for difficult concepts. For instance, many KSU students who grew up in the farming flatlands of western Kansas appreciate why the tallest structure in their town was the water tower – a necessity for providing a constant driving pressure for water faucets. This introduces the fundamental principles of the cardiovascular system where blood flow = driving pressure/resistance. For their examination, students are permitted/encouraged to bring in a 3 × 5 card, onto which they can have written formulae, graphs, details, etc. The process of recording such details often commits them to memory, relieves stress, and allows the focus to be on solving problems rather than rote memorization.

Do not try to satisfy your vanity by teaching a great many things. Awaken people’s curiosity. It is enough to open minds; do not overload them.

Anatole France (6)

In this age of electronic gadgetry, it is possible to test the student’s knowledge in real time either anonymously or not, and, depending on the class or circumstances, this may help or hinder the educational process. In this regard, the Microsoft OneNote system that I first experienced through our Veterinary Medical program can be excellent. For the cardiovascular system, I code the different pathways and responses in a range of contrasting colors and encourage the students to either follow on hardcopy (undergraduates) or on their computers in real time (veterinary students). At both levels, feedback has been positive, and it certainly helps keep the students “on task.”

My role as a teacher does not end with a given class or program of study. Part of the greatest reward for teaching is following and helping facilitate career paths for my students. I have been delighted (although not surprised) to see the Department of Kinesiology emerge as the premier pre-health care (e.g., medicine, veterinary medicine, physical, respiratory, and occupational therapy) major at KSU. My deserving students always have me and my colleagues as resources for career

advice, to write letters of recommendation, and often to make that personal phone call that means the difference between failure and success. I consider their and my accomplishment to be inseparable. Today, my former students constitute many of my most respected and trusted professional colleagues and leaders in their fields: Their many successes constitute the achievement of which I am most proud.

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Continued from page 1: Change

The Society's book program has also changed over the same time period. Our efforts to create a "living, breathing" handbook of physiology came to fruition with the signing of an agreement with Wiley to create *Comprehensive Physiology*. Built upon the *Handbooks of Physiology*, back copies were scanned to become the legacy content for *Comprehensive Physiology*, and the editors, led by Ron Terjung and now David Pollock, have been working to update the *Handbook* content in the form of review articles addressing all aspects of physiology. Similarly, APS has resurrected its monograph series by signing a contract with Springer. Thirty-three monographs have been scanned and are freely available to members as eBooks through the members' only site. In addition, APS and Springer have contracted for five additional books, the first of which was published at the end of 2013. I urge you to read Larry Longo's book on *The Rise of Fetal and Neonatal Physiology*.

It is now time for *The Physiologist* to undergo change. Since I became executive director in 1985, *The Physiologist* has delivered the news about APS, its members, its activities, and its programs, all in black and white. Now that the other aspects of the Society's publications program have been addressed, it is time to redesign the Society's newsletter – it is time for a new look. The addition of color and the redesign represent a first step to changing *The Physiologist* to meet the needs of the membership. Yes, it will continue to provide news about the activities and people that define our Society, but I also want it to become more personal, telling stories about the people that shape our discipline. I want to hear from you with thoughts on what you would like to see in the new and hopefully improved version of *The Physiologist*. I look forward to hearing from you with your ideas and greatly appreciate your continued support of APS. ●

Martin Frank

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XXXVII IUPS Congress – Birmingham, UK

As indicated during the welcome address, “unraveling the logic of life – the meaning of ‘physiology’ – is our mission as physiologists and Congress attendees.” It is the way physiologists can give meaning to all those DNA sequences and to the growing multitude of RNAs, revealing the mechanisms of control. Organization and control are what characterize living systems. Defining the nature of physiology in this way can be traced to Claude Bernard in the 19th century and to Walter B. Cannon in the 20th century.

The first international Congress of physiology was held in Basel in 1889. It brought together approximately 130 scientists, mostly from Europe. The IUPS Congress numbers are now counted in the thousands. The 37th Congress held July 21-26 in Birmingham, UK, attracted 3,061 scientists, representing 88 countries.

The Congress organizers attempted to provide a complete and focused presentation of all current trends in modern physiology. The meeting covered a wide range of physiology and pathophysiology, from genomics to molecular biology to systems biology, with an emphasis on emerging fields and translational medicine. The scientific program ran for 5 days. Each day consisted of keynote and prize lectures followed by symposia, tutorials, and

workshops. A total of 33 prize and keynote lectures were presented during the 5 days of the Congress. In addition, there were 102 symposia presented by international physiologists in attendance at the meeting.

The 37th IUPS Congress started on Sunday, July 21, with a welcome from Bridget Lumb, Chair of the Organizing Committee, and David Eisner, Chair of the Scientific Program Committee, followed by lectures presented by Nobel Laureate Sir Paul Nurse and the IUPS President's Lecture, presented by Denis Noble, University of Oxford, UK, titled “Physiology Moves Back Onto Centre Stage: A New Synthesis With Evolutionary Biology.” Following the opening session, the Congress held an opening reception, which included a performance by “GI Distress,” a band comprised of physiologists. On Tuesday, July 23, the organizers held a Congress dinner featuring food from England, Ireland, Scotland, and Wales. In addition, entertainment was provided by Scottish bagpipers, the Welsh Male Choir, and an Irish band. The 37th IUPS Congress closed with representatives from IUPS and The Physiological Society giving short addresses, thanking the participants in the Congress, and arranging to pass the IUPS flag to Benedito Machado, who represented the Brazilian Society of Physiology, hosts for the 38th Congress, “The Rhythms of Life,” August 1-5, 2017. ●



IUPS 2013: Dancing at the Congress Dinner – Delegates dance to the Irish band at the Congress Dinner.



Bridget Lumb passes the IUPS flag to Benedito Machado and Vagner Antunes, who represented the Brazilian Society of Physiologists, hosts for the 2017 IUPS Congress.

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Call for Undergraduate Summer Research Fellowship Applications and Research Hosts

IOSP Fellowships for Underrepresented Undergraduate Students (Up to 8 Fellowships)

The APS Integrative Organismal Systems Physiology (IOSP) fellowship provides hands-on summer research experiences for undergraduate, underrepresented students interested in exploring comparative and evolutionary biology research careers. The program provides exposure to IOS mission areas of comparative and evolutionary research. Fellows receive a \$4,000 stipend to work for 10 weeks in the laboratory of an APS member, \$1,050 subsistence, and up to \$750 in reimbursement for EB travel; hosts receive a \$500 unrestricted grant. Accommodations are available for students with disabilities. The IOSP program is supported by a grant from the National Science Foundation Integrative Organismal Systems Award No. IOS-1238831.

Application deadline: February 1

www.the-aps.org/iosp

Research Hosts Needed: APS members wishing to host an undergraduate student (or a high school teacher) in their laboratory this summer are encouraged to sign up for the Research Host list at <http://bit.ly/1835YVZ>. ●

For more information on any of these programs, visit <http://www.the-aps.org/summerresearch>. For additional questions, contact the Education Office at education@the-aps.org.

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