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The Physiologist

INSIDE

86TH PRESIDENT OF APS

Kim E. Barrett

Univ. of California, San Diego

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It is with an immense sense of pride and professional accomplishment, as well as some definite trepidation, that I sit contemplating my upcoming term as the 86th President of APS as the fifth woman to hold that office in the Society's 125-year history. Like my immediate predecessors, Joey Granger and Sue Barman, I am extraordinarily grateful to the APS membership for their confidence in electing me to this honored position. My trepidation relates to the responsibilities of the role, and the urgency with which we must tackle some of the challenges facing the Society and our discipline. However, I also see this as a time of unprecedented opportunity, which is part of why I sought election to the president's position in the first place. I am also a firm believer in the adage "If you want something done, ask a busy person." So, with the expectation that my life will get no less busy in the year ahead, it is a privilege to set down some thoughts and plans for my presidential year. Fortunately, I will have plenty of help. The Society is blessed with a huge cadre of talented individuals who dedicate their time and imagination to making the APS the most important professional nucleus for the members of our discipline. Not only does this include the volunteers who serve on our Council, Committees and Editorial Boards, but also the wonderful professional staff in our office in Bethesda, under the most able leadership of our Executive Director, Marty Frank. These individuals collectively make sure that good ideas become realities. I look forward greatly to collaborating with all of these colleagues as the year unfolds.

How I got here

Unlike my colleagues Joey Granger and Sue Barman, I did not train formally as a physiologist, although my undergraduate degree in Medicinal Chemistry, completed at Univ. College London (UCL) in 1979, saw me studying physiology with the UCL medical students as part of my curriculum. I continued at UCL for my PhD in Biological Chemistry with my advisor Fred Pearce, studying the biology of the mast cell, a major cell type responsible for the pathogenesis of allergic reactions. This led to my postdoctoral fellowship at the National Institute of Allergy and Infectious Diseases on the NIH campus in Bethesda, Maryland,

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where I was mentored by Dean Metcalfe. Our lab at the NIH was populated almost exclusively by MDs who were pursuing their subspecialty training in allergy and immunology. It was my first real exposure to translational research and, indeed, direct interactions with patients in the Clinical Center as well as "normal volunteers" who spent a year (typically pre- or post-college) serving as controls for a whole host of ongoing protocols. I like to think that my postdoc in this clinically-oriented environment was where I first started to think like a physiologist, which was further consolidated when I made my final move in the mid 1980's to the Univ. of California, San Diego, initially as a research faculty member in the Division of Gastroenterology in the Department of Medicine. To begin with, I worked with the late Kiertisin Dharmsathaphorn, with the goal of applying my knowledge of allergic and immune reactions in the gut to an understanding of how epithelial transport and barrier functions might be deranged in the setting of food allergy and inflammatory bowel diseases. I loved how the classical approaches to the study of epithelial transport physiology—including the mysterious Ussing chamber—gave such immediate gratification in terms of experimental results, and my evolution to the life of a physiologist was complete. It was, therefore, a logical step for me to switch my allegiance from the American Association of Immunologists to the APS as my major basic science societal home, which I did in the early 1990's. Indeed, the APS has supported my professional development in so many ways, and I look forward to furthering that tradition for others.

The nature of physiology and physiologists

I believe my story is important in thinking about the diverse individuals and constituencies that make up our Society, and indeed underpin our discipline. I have no degree in physiology nor any substantive training in the discipline beyond a single undergraduate course, yet I have devoted the majority of my career to date not only to research questions that are clearly physiological in their origins and the methods I use to address them, but also to teaching medical, pharmacy and graduate students about physiology at the bench and in the classroom. This shows that we can well-afford to be expansive in who we think of as physiologists, particularly in the face of increasingly interdisciplinary biomedical research—indeed, one can make a pretty good case that almost the whole of biomedical inquiry is ultimately devoted to uncovering physiological, or at least pathophysiological, mechanisms. We, therefore, have a vast number of potential members to recruit to our cause, which will help us to underscore the central place of physiology as the foundation of both human and animal medicine, and indeed our understanding of all living things. I hope we can reach out to colleagues in cell biology, neuroscience, immunology, etc., many of whom are considering questions that are truly physiological at their core, and many of whom are looking for ways to make their science more integrative.

"Indeed, the APS has supported my professional development in so many ways, and I look forward to furthering that tradition for others."

And yet the universality of physiology is also a hurdle to be overcome. Even I sometimes balk at labeling myself as a physiologist when introducing myself, if I sense that this label will represent a barrier to understanding and mutual appreciation. If physiology is in everything, it runs the risk of not being seen as a fundamental sphere of inquiry in its own right, and indeed not being seen as "sexy" by the next generation of scientists. In fact, throughout my 20+ year affiliation with APS, I have sensed a lingering inferiority complex on the part of some of the membership and the discipline as a whole, which likely had its origins in the days of explosive growth of molecular and reductionist approaches. This has been a topic of great debate in the two most recent Strategic Planning exercises, and in discussing our journals, and in fact has led to the APS making great strides in promoting the discipline at all levels, from government advocacy, to outreach, to the general public, to PhUn week activities with schoolchildren. I urge the membership to embrace our identity, recruit colleagues to the fold no matter what their formal disciplinary labels, and take up the challenge to explain the importance and relevance of our science in an era where a focus on translation and the return on research investments will be increasingly important. In the coming year, I will join with my colleagues on the Executive Cabinet in continuing our outreach to the NIH leadership, to ensure that they understand the critical need for continuing to train individuals who can address integrative science. But grassroots advocacy will be equally, if not more, important.

Strategic priorities

The APS Strategic Plan, developed at a broadly attended meeting in early 2011, has since been fleshed out to delineate specific action items and responsible parties by a number of hardworking task forces. The plan will guide the Society's actions for the next several years, and focuses on five priority areas: awareness and advocacy for the discipline of physiology; attracting, meeting the needs of, engaging and retaining members; strengthening the Society's publications; enhancing opportunities for scientific interaction at our meetings; and increasing the visibility of physiology in life sciences and health sciences education. Two cross-cutting themes were also identified—physiology as critical in translational research; and chapters as an underutilized resource. As of this writing, the process has surfaced a wealth of new ideas and concrete advances. The area of publications is the one in which I have the most detailed knowledge, having served as Chair and then Vice-Chair of the Publications Committee for the last eight years. By the time this article is published, the APS should already have launched a new Open Access journal titled *Physiological Reports*, under the able leadership of Editor-in-Chief Susan Wray and Deputy Editor-in-Chief Tom Kleyman. This is a particularly exciting venture because it is being undertaken as a partnership with The Physiological Society of the UK and Ireland. Indeed, in my view, international collaborations will become increasingly important to the APS and so this is a topic I will return to at the end of this article. There is also active engagement with the need to enhance the quality and visibility of our existing journals, and to increase the number of submissions. Our editors are already working to strengthen the rigor of their editorial processes, use metrics to identify the features that characterize

highly-cited articles, encourage submissions by the leaders in the field, and work with our sections to promote submissions related to symposia held at EB and other meetings. The Publications Department (headed by Rita Scheman) and the Education Department (headed by Marsha Matyas) will also work together on an initiative designed to strengthen the integrity of our publications. With the integral involvement of Christina Bennett, Publications Ethics Manager, the APS has received funding from the National Science Foundation to develop materials designed to educate early-stage investigators about appropriate standards in publication ethics.

Engaging the membership is likewise an area near and dear to me. The APS already offers many programs and activities that add value to members, but in these days of shrinking budgets and a proliferation of professional societies and interest groups competing for our members' attention (and dollars) we must do more. Our efforts can conveniently be subdivided according to the membership segment targeted. For example, in part with the encouragement of Past-President Joey Granger, the APS has increased the number of opportunities to involve trainees more intimately in the workings of the Society. Joey also proposed an APS Leadership Institute for trainees and early-stage investigators, and I will personally make it a priority to see this proposal become a reality, as discussed in more detail below. I also plan to continue the tradition of inviting a Nobel Laureate to deliver an address on his/her pathway in science at the close of the EB meeting next year, with the express purpose of providing an opportunity for our special guest to meet with, and inspire, students and postdoctoral trainees.

In the area of advocacy, as mentioned above, the Executive Cabinet, Science Policy Committee, and the Science Policy Office (directed by Alice Ra'anan) have already stepped up efforts to engage with leadership at the NIH and other federal funding agencies as well as policymakers on Capitol Hill. As Sue Barman wrote in her Presidential article last year, these efforts are already paying dividends, as key NIH personnel attended EB in 2012 to present a well-attended session updating our members on policies and new programs. And while, as of this writing, we have avoided the immediate threat of a federal sequester that might drastically have curtailed research funding, domestic discretionary spending is certain to receive continued scrutiny as the new

Introducing Kim E. Barrett

Kim E. Barrett is Professor of Medicine in the Division of Gastroenterology of the Department of Medicine at the Univ. of California, San Diego (UCSD), School of Medicine in La Jolla, CA. She also holds joint appointments in the Division of Rheumatology, Allergy and Immunology and the Division of Pulmonary and Critical Care Medicine. She is an active member in the Biomedical Sciences PhD program, and also provides instruction in gastrointestinal physiology to medical and pharmacy students. She has played a number of leadership roles in her department, the School of Medicine, and the campus more broadly, including having served as Vice-Chair for Research in the Department of Medicine, Chair of the Biomedical Sciences Program, Vice-Chair of the Graduate Council, and elected Chair of the Health Sciences Faculty Council. These and other roles prepared her for selection as Dean of Graduate Studies for the UCSD campus as a whole in 2006, in which capacity she oversees all aspects of the graduate education experience for more than 4500 masters, doctoral and professional students. She has won several institutional awards for her teaching as well as her administrative contributions.

Barrett is a proud native of the United Kingdom, and received her PhD from Univ. College London in 1982. Her thesis research, under the guidance of Frederick L. Pearce, established functional heterogeneity among mast cells from different species and organs, and has implications for our understanding as well as the treatment of a variety of allergic disorders. She completed a postdoctoral fellowship with Dean D. Metcalfe, in the Laboratory of Clinical Investigation of the National Institute for Allergy and Infectious Diseases, focused on developing methods to isolate and characterize mast cells from the gut, including from non-human primates. In 1985, she moved to UCSD to work as a research faculty member with the late Kiertisin Dharmsathaphorn on intestinal transport; she was transferred to a regular professorial series in 1988 and rose to the rank of Professor by 1996. She has published more than 100 original articles, of which almost one third have appeared in APS journals, as well as more than 100 invited articles, book chapters and reviews. She has been the lead contributor to the latest two editions of Ganong's Review of Medical Physiology and recruited colleagues Sue Barman, Heddwen Brooks and Scott Boitano to assist with this project. She is also sole author of Gastrointestinal Physiology, published by McGraw-Hill in its first edition in 2006, and with the next edition to appear later this year.

Since gaining her faculty appointment, Barrett's research has focused on the intra- and intercellular mechanisms that regulate intestinal transport and barrier function. She has paid particular attention to chloride secretion and the ways in which this process is deranged in the setting of intestinal inflammation and infections and may thereby account for diarrheal symptoms, as well as defects in host defense. She has defined the epidermal growth factor receptor (EGFr) as a key signaling crossroads that integrates information arising from other epithelial receptors and ultimately serves as a brake against excessive secretion. She has also shown how so-called probiotic bacteria, commensals selected for their apparent therapeutic benefits, can restore epithelial homeostasis in the gut and prevent the adverse effects of pathogenic bacteria and inflammatory cytokines. Her most recent research is examining the pathophysiological correlates of diarrheal disease associated with infection with Salmonella spp. in a novel animal model. Her work, and that of her trainees, has been continuously

congress seeks to balance the federal budget. Our dialogue with decision makers must continue, and I urge you to get involved. It is vital that we stress the return on investments in physiological research, and also the role of our discipline in providing a bridge from basic discoveries to practical applications that restore or enhance human health. We also seek your assistance in getting the word out more generally about the importance of physiology whether it be to your grandmother, your child's class at school, community groups, or your local media. A great place to find resources to help with this task is the Society's website, as well as our biweekly blog and various social media tools.

Space limitations preclude a more detailed discussion of all of the great ideas that have emerged from the strategic planning process, as well as the ways they have been amplified and codified by subsequent discussions. Suffice to say that in my lengthy association with the Society, including formal involvement now with the development and/or implementation of three strategic plans, I have never seen such a ferment of creative thinking and such prompt movement from ideas to reality.

My presidential goals

Of course, any President of APS has only a very short time in which to impact the Society's direction. We each, in turn, add a little bit of progress by working with our colleagues on the Council, and building on the accomplishments of those who have gone before us. My presidential term will be no different, and so my first priority will be to consolidate the advances envisaged in the Strategic Plan, including those discussed above. However, it is customary in these articles to talk also about the specific areas where one would most dearly like to see some real progress before handing over the gavel. I will discuss two areas where I intend to devote significant energy, which actually interdigitate snuggly with the priorities already outlined.

First, I believe we must do all we can to ensure that we retain a robust pipeline of individuals prepared to address questions of physiological relevance, and to explain their importance, no matter what their eventual career goals. In one of my day jobs, I am a Graduate Dean, with responsibility for the quality and outcomes of graduate educational programs on my campus. It has become increasingly obvious to me (as well as just about everyone else on the planet) that our PhD trainees can neither necessarily expect, nor in many cases do they desire, a career as an independent investigator at a research I university—that is to say, they may not become clones of their advisors in physiology, or indeed in any scholarly discipline. This does not imply that we are training too many physiologists; the skills acquired through developing and completing a thesis project equip one for a wide range of satisfying careers, and we sorely need, for example, policymakers who understand the relevance of the research we do. However, our members

funded by various institutes and centers of the National Institutes of Health as well as private foundations such as the Crohn's and Colitis Foundation of America.

Barrett has been highly active in editorial activities, as well as other aspects of peer-review. She served as Editor-in-Chief of American Journal of Physiology-Cell Physiology, among other editorial roles, and is currently on the Editorial Board of Physiological Reviews as well as serving as Deputy Editor-in-Chief (for The Americas) of The Journal of Physiology. She has served as a permanent NIH study section member and on review panels for the National Center for Complementary and Alternative Medicine and the CCFA. She is chair of the International Scientific Advisory Board for the School of Biosciences at the Univ. of Cardiff, UK and the Scientific Review Committee of the Center for Gastrointestinal Biology and Disease at the Univ. of North Carolina, Chapel Hill.

Barrett has been recognized for her contributions with a number of awards, including a Science and Engineering Research Council Research Scholarship, Fogarty Visiting Fellowship, Fulbright Traveling Scholarship, the Young Investigator Award of the American Gastroenterological Association and Gastroenterology Research Group, the APS Henry Pickering Bowditch Award, a Kaiser-Permanente Award for Excellence in Teaching, Doctor of Medical Science, honoris causa, from Queen's Univ. Belfast, the APS Davenport Lectureship, election as a Foreign Member of the Swedish Royal Society of Sciences, the AGA Outstanding Women in Science Award, the APS Bodil Schmidt-Nielsen Distinguished Mentor and Scientist Award, the Distinguished Administrator Award from the Graduate Student Association at UCSD, and the Partner in International Education Award from the UCSD International Center.

Barrett has been actively involved with the APS essentially for the entirety of her professional career. She has served the Society in many capacities, which has generated a thorough familiarity with the challenges and opportunities that are facing both the Society and the discipline of physiology. Perhaps most significantly, her six-year term as Chair of the Publications Committee, following on from three years as an elected Councillor, gave her the opportunity to oversee one of the Society's most important programs. She has also served on the Nominating Committee of the GI Section, as member and Chair of the Women in Physiology Committee, on the Steering Committee of the Cell and Molecular Physiology Section (ex officio), as APS representative to the FASEB Excellence in Science Award Committee and FASEB Journal Editorial Board, on the Awards Committee, as Chair of the Committee on Committees, as Vice-Chair of the Publications Committee in charge of ethical issues, on the Nominating and Finance Committees (ex officio), on the Publications Taskforce, and as a faculty member at every Professional Skills Workshop on Writing and Reviewing for APS Journals since their inception in 2006.

In her personal life, Barrett is married to Peter Pierce (US Navy, retired) and enjoys almost nothing more than using her long-standing annual pass for a trip to the Happiest Place on Earth (aka Disneyland). She also draws great satisfaction from her role as one of the back-up singers in the band GI Distress, comprised of GI physiologists from around the United States and beyond. Check them out at the EB closing reception in Boston this April!

who are involved in training PhD students are sometimes only poorly equipped, at best, to advise their mentees on career paths in other settings. Indeed, this limitation has recently been recognized by the NIH, which is changing its thinking on the outcomes that constitute success for research training in biomedical disciplines. NIH has signaled its intent to reward those who train not only eventual R01-funded investigators, but also trainees who then go on to inspire community college students, manage drug discovery in the private sector, or interpret scientific advances for the lay public, as just a few examples. I believe that the APS similarly has a role to play in helping our trainee members acquire transferrable skills that will complement their deep understanding of a specific physiological area. Likewise, such skills, ranging from effective communication to an understanding of institutional dynamics to personnel management to how to read a balance sheet, will position our trainees to serve as leaders within the APS, as well as within their eventual places of employment, including academic institutions. If we have more physiologists who are equipped to ascend to visible leadership roles, it can only be good for the discipline and for science in general. I will work with Council to advance a Leadership Institute to prepare early stage investigators for these roles, as well as other initiatives that may better orient all those who aspire to greater involvement in the Society.

Second, I believe it is imperative that we continue our path towards greater interaction and collaborative projects with our sister societies in other countries. We already have a significant number of international members, but I suspect the majority of these are simultaneously members of their own national physiological societies where these exist, implying the need for a more nuanced relationship with this important constituency and for research into the factors that incline these individuals to join both groups. We are developing robust partnerships with our counterparts in the UK, Brazil and China, among others. The Physiological Society, of course, has a history longer even than that of the APS, but is eager to work with us to provide a united approach to the promotion of physiology in ways that neither society could accomplish alone, and to cooperate, rather than compete; the new journal venture is a case in point. There are also many opportunities for us to offer reciprocity in member benefits. Brazil and China, on the other hand, are among the most rapidly-expanding economies in the world and are newly investing vast resources in their research infrastructure and the development of human capital. The students in these countries are bright, enthusiastic, deeply engaged with the promise of physiology as a discipline (apparently without the inferiority "baggage" that may have afflicted us here in the US), and global citizens whose mobility will be vital to worldwide scientific progress. I believe we have an incredible opportunity, and perhaps also an obligation, to help our colleagues in these countries supplement the training of their students with the sort of educational programs for which the APS is renowned. For example, this spring, Sue Barman, Marsha Matyas and I will lead a group of APS members to mount a live Professional Skills Training Course on Writing and Reviewing for Scientific Journals for a group of students attending a physiology symposium in Ribeirão Preto, Brazil. This effort has received support from the APS Latin American Initiative, and is at the invitation of Wamberto Varanda and Benedito Machado. Wamberto and Bene, as well as other faculty from the Univ. of Sao Paolo, Ribeirão Preto, and beyond, will attend the course as observers with the intent that they will then be able to replicate this proven educational program more widely in Brazil. I hope that, as a Society, we can think of many other ways to cooperate with our international colleagues to raise the profile of the discipline and the preparedness of all students. Such efforts will almost certainly yield dividends for our domestic members as well. For example, it will enlarge their scientific networks, provide access to energetic trainees who can cement collaborations, bring new insights and ways of looking at research questions, and perhaps provide access to unique experimental approaches and resources in terms of populations, environments and funding.

"The APS has a wide range of programs and services that offer great value to our members, as well as others who rely on our unbiased advice and counsel on important topics, such as publication ethics and the use of animals in research."

Closing thoughts

Although I did not set out initially to become a physiologist, I am delighted with where I have arrived. In particular, I am very proud to have the opportunity to serve the APS and its membership, and to advocate for physiology and its practitioners particularly in the US, but all over the world. The APS has a wide range of programs and services that offer great value to our members, as well as others who rely on our unbiased advice and counsel on important topics, such as publication ethics and the use of animals in research. We produce outstanding publications and organize meetings that showcase exciting scientific developments with the potential to solve vexing health and societal problems. Not mentioned above, the Society also benefits from the enviable status of a robust financial position, carefully shepherded by Bob Price, who directs our business affairs. This allows us to contemplate new initiatives, which is fortunate, as there is always more we can do. I eagerly anticipate working with my colleagues on the Executive Committee (Sue Barman, Marty Frank and the new President-Elect, soon to be named), the Council, our various Committees, and of course the wonderful APS staff, to convert any challenges we may face currently into opportunities. In addition to staff members whose names have arisen in this article, I look forward also to increased interactions with these additional key leaders and their staff: Linda Allen (Membership and Meetings); Donna Krupa (Communications); Kevin Kaneshige (IT); Veronica Purvis (Marketing) and Linda Dresser (Executive Office). Once again, I thank the membership for the confidence you have shown in me, and want to assure you that I am eager for your input, ideas and imagination. My (electronic) door is always open for your thoughts (kbarrett@ucsd.edu). ❖

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An Individual Development Plan Will Help You Get Where You Want to Go

Philip S. Clifford, Cynthia N. Fuhrmann, Bill Lindstaedt, and Jennifer A. Hobin

Do you remember the conversation between the Cheshire Cat and Alice in Wonderland?

> "Would you tell me, please, which way I ought to walk from here?"
>
> "That depends a good deal on where you want to get to," said the Cat.
>
> "I don't much care where..."
>
> "Then it doesn't matter which way you walk," said the Cat.
>
> "...so long as I get somewhere," Alice added.
>
> "Oh, you're sure to do that," said the Cat, "if you only walk long enough."

This seems to bear some resemblance to the situation that many young PhD scientists find themselves in. Many have no specific direction for where they're headed and, consequently, no plan on how they're going to get to their ultimate destination. An Individual Development Plan (IDP) is intended to chart a career direction and help set some goals for getting there. myIDP(6) is a free online tool from ScienceCareers that guides science graduate students and postdoctoral fellows through a step-by-step process of putting together an IDP. In response to the Biomedical Research Workforce Working Group Report2, NIH officials have recently indicated that the agency is developing a policy that requires all trainees to create an IDP. myIDP can help trainees, mentors, and institutions meet that requirement.

The Need for Career Planning

Early career scientists face considerable career challenges in the current economic environment, which has seen funding for research decline in real dollars and academic job opportunities become more competitive. According to data available from NSF's Survey of Doctorate Recipients(7), the proportion of US science and engineering doctorate recipients working in academe is 48%. However, that statistic is easily misinterpreted since it includes postdocs, staff scientists, nontenure track faculty, and administrators. A careful examination of the most recent data available reveals that five to six years after receiving their PhD degree, only 15.5% of biomedical scientists were tenured or

in tenure-track academic positions in 20084. The news is not that great from the industry perspective either. According to the consulting organization Challenger, Gray, and Christmas, there has been continuous downsizing in large pharmaceutical companies over the last decade(9). These sobering employment statistics reinforce the need for young scientists to plan wisely in order to be prepared in a competitive employment environment. myIDP provides information to help trainees prepare for both "traditional" research positions in academia and industry, as well as a host of scientific career paths that may be less well known to graduate students and postdocs.

The Value of Career Planning

There is a sound research basis for the value of deliberate career planning. People with well-delineated career plans rank themselves higher on subjective indices of success, such as career satisfaction, compared to their peers without career plans(8). People who develop strategies to pursue career-specific goals also achieve greater objective measures of career success as indicated by salary, promotions, and level of responsibility7. The Sigma Xi survey of 7,600 postdoctoral fellows found that postdoctoral scholars who developed structured plans with their advisors reported greater satisfaction, published more papers, and experienced fewer conflicts with their advisors (3). A survey administered by

Recommendations for trainees:

- Complete the myIDP exercises and explore the breadth of career options available to well trained scientists.
- Don't expect to complete the process in a day, a week, or even a month. Career planning is an iterative process which takes time.
- Take advantage of myIDP's career planning resources as well as those available at your institution, through the American Physiological Society, and FASEB.
- Print your myIDP goals and post them in your work area.
- Opt to receive deadline reminders from myIDP to keep you on track.
- Discuss your IDP with mentors. Make this a separate conversation, not tacked on to the end of a standard research-focused meeting.

Recommendations for mentors

- Explicitly encourage your trainees to create an IDP.
- Be willing to invest your time in career discussions in addition to discussions about research projects.
- Provide constructive feedback about your trainee's scientific skills. To help you accomplish this, there is an assessment form that can be printed from the Skills Summary page in myIDP.
- Help your trainees set realistic goals.
- Familiarize yourself with your institutional career resources and urge your trainees to take advantage of them.
- Encourage your trainees to attend the Experimental Biology meeting and avail themselves of the career resources provided by the American Physiological Society and FASEB.
- Assist your trainees in expanding their networks by introducing them to your contacts both in academia and outside of academia.

FASEB found a surprisingly low awareness of the concept of an IDP. Nevertheless, a majority of postdocs and mentors who had developed IDPs found the process beneficial(5).

New resource for career planning

myIDP provides exercises to help trainees examine their skills, interests, and values. It then matches an individual's skills and interests with those necessary for 20 different scientific career paths. The idea is not to magically determine the perfect career path, but to suggest some options that the individual might consider for further exploration. The career exploration process is often not given enough serious attention. myIDP highlights three primary means for learning about careers: reading, attending events, and talking to people. Carefully selected articles, book chapters, and professional organizations are listed for each career path. There is helpful advice for how to build a network and conduct informational interviews to gain more in-depth knowledge about career paths. After evaluating the requirements for specific careers, the user is encouraged to set strategic goals to prepare for their desired career and to stay on top of their research projects. Users can opt to receive goal reminders to keep them on track. A summary version of the IDP is saved online and can be printed for further review and discussion. There is no charge to use the site and users can return to the site as often as desired to access the resources there. ❖

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APS News

APS Election Results

The American Physiological Society announces the results of the election of officers for 2013. David Pollock, Georgia Regents Univ., is the new President-Elect. The three newly elected Councillors taking office on April 24, 2013 are John Chatham, Univ. of Alabama at Birmingham; M. Harold Laughlin, Univ. of Missouri; and Marshall Montrose, Univ. of Cincinnati. The Councillors will each serve a three year term. ❖

David Pollock
APS President-Elect

John Chatham
Councillor

M. Harold Laughlin
Councillor

Marshall Montrose
Councillor

Q&A: *Physiological Reports*

With open-access journal Physiological Reports *set to launch this spring, Jacob Lonsdale, Head of Media and Communication for The Physiological Society, speaks to Editor-in-Chief, Sue Wray, and Deputy Editor-in-Chief, Tom Kleyman.*

What is *Physiological Reports*? How is it different from other journals published by The Physiological Society and the American Physiological Society?

Sue Wray: Physiological Reports is a joint initiative between The Physiological Society and the American Physiological Society. It will cover the whole of physiology, not just muscle, or neuroscience, or cellular—it's physiology in all its glory! A new open access journal of benefit, I would say, to the whole physiological community.

In my opinion, as a jobbing physiologist, there is a gap in the market. I currently have a couple of papers in PLOS ONE. What you get with PLOS ONE is a rapid turnaround, and as long as the work is scientifically and ethically sound, of a good standard and adds value to the literature, it can be accepted. There isn't the equivalent of PLOS ONE that serves our community, and again as a physiologist, I'd really prefer something that had "physiology" or "physiological" somewhere in its title to show that this work that I've submitted has been seen by experts in my field. The expertise we will get through the affiliation with the two societies will add an extra soundness and an extra degree of satisfaction that I'm published in something that bears their marks.

Tom Kleyman: We're looking for manuscripts that cover all areas of physiology, including manuscripts that are translational in nature. The story they tell may not be as complete as those papers published in one of the other APS or PhySoc journals. We're looking for solid science, but it may be an opportunity for authors to publish negative findings, which we think should be an important part of the literature, and also an opportunity for authors to publish findings that are primarily confirmatory of an important finding.

What is your background and how has it led to your leading this new journal?

Sue: I'm a professor of physiology at the Univ. of Liverpool. I'm a smooth muscle physiologist. I guess my favourite smooth muscle is in the uterus, the myometrium, but I'm also interested in vascular and ureteric smooth muscle. I'm interested all the way from single cell studies—calcium handling by the sarcoplasmic reticulum for example—through to work on whole tissue—measuring contractility, for example—going through all the way to studies of human tissue and looking at human populations, especially with respect to child birth and labour outcomes. I think in modern parlance that makes me a translational physiologist, but for me that's what physiology has always been about; how the body works.

I've served on the editorial board of *The Journal of Physiology* and indeed I was Secretary to the Board. (I was the last person in that position—I hope that's not a bad omen!) Then, until the end of 2012, I served on the editorial board of *Experimental Physiology*. I was also on the editorial board of *News in Physiological Sciences,* the APS publication that went on to mutate into *The Physiologist*. So I have experience of acting as an editor for journals produced by both societies.

Tom: I am a Professor of Medicine at the Univ. of Pittsburgh. I'm a physiologist, as well as a nephrologist. I work on ion channels that are found in epithelial cells, primarily epithelial sodium channels, with a focus on structure-function studies.

I served for six years as an associate editor of the *American Journal of Physiology: Renal Physiology,* and I'm currently completing a six-year term as Editor-in-Chief of that journal. I have also served on the editorial boards of the *Journal of Biological Chemistry* and *Journal of Clinical Investigation.* I was on the APS committee that considered whether we should pursue an online, open-access journal and became very interested in participating in the project.

Is the trend towards open access a positive one?

Sue: I do think it's a positive, yes, and that's why, as I say, I've forked out money to publish in PLOS ONE. I think what's distinctive about *Physiological Reports* is that we're going to be gold standard open access for our societies. As I'm sure our Members are well aware, you can pay other PhySoc or APS journals to have your work published open access. However, not all authors choose to do so and, thus, there is a delay before content is available to all. Whereas in *Physiological Reports* everything will be accessible to everybody throughout the world from the moment it's published. So, people will have ready access to your work and it gets the message out there quicker about your research, and so you can actually move projects along faster, which is good for the subject. Our societies are also interested in teaching, and not all teachers can afford a subscription to journals to get the content they need. Also, in developing countries, it's a great resource for them to be able to have complete open access to what will be cutting-edge physiological research.

It is controversial, though. I mean within our own societies, we're all very grateful for the income generated from our conventional journals. What's going to happen to that income in this fluid publishing environment? I think from that point of view both societies have been extremely smart in launching *Physiological Reports*. It allows the societies to adjust their publishing portfolios to whichever way the future of academic publishing goes. It's not that we're in open access because we've been dragged there—we're here because we want to be, because we see this as a positive.

Tom: There has been an explosion of open access journals over the past decade. Authors are clearly seeking the open access format and I think both societies felt it was important to provide this type of venue for their Members and for the physiology community.

What is your vision for *Physiological Reports* and what challenges lie ahead?

Sue: Starting with obstacles, it's getting people to know about the journal and to test it. So we've got to have clear criteria for acceptance and we've got to bring our colleagues on side. People are going to be asking, "How do we know this isn't going to fold in two years' time?", or saying, "This journal will not have an impact factor for two years." We've got to sell the vision to overcome those obstacles. I think also, because

there has been a glut of other open access publications by publishers who are only interested in money, we're all fed up of emails coming through—"Oh, here's the new open access journal of blah, blah, blah, send us your papers." So I think an obstacle for us is to show how we are different. I think to have the imprimatur of both societies is hugely beneficial. It puts a clear line between us and some of the other enterprises.

We're in the process of appointing associate editors and there's been such enthusiasm from the people we've approached. They've instantly got the idea of it and want to be part of it. *Physiological Reports* will be able to really take advantage of all that is coming up in the technology of web publishing and open access. I think that's exciting for many of our Members. We are scientists and we do get a bit turned on by such things!

I also hope *Physiological Reports* will bring all the physiological community together. There are some areas of physiology that you rarely see represented in our other journals. So whether what you're doing is considered "of the moment" or not, we will be interested in that work. We won't have page limits. We won't say, "We can only accept 20 per cent."

My vision is also that this will be a service to physiologists. By getting your work out in a prompter manner, you stand a better chance of getting a grant, or to progress the work.

Tom: We need to incorporate the best aspects of journal management from both societies, and from our publisher, Wiley, who obviously has extensive experience in launching scientific journals. The staff at both societies are wonderful. They're really working hard, and working together, to make this a smooth operation.

We will work with members of both societies to encourage submissions to the journal. Society members are key, as they are the ones who are going to be using the journal. They are going to be submitting manuscripts, they are going to be reading the manuscripts, and they are going to be reviewing the manuscripts.

There's a very positive vibe within the societies about starting this journal. I'm starting to get feedback from people who are very interested in sending manuscripts to the journal. It's very exciting.

Visit the website www.physiological-reports.org. ❖

[This interview is being published simultaneously in *Physiology News* and *The Physiologist,* the newsletters of The Physiological Society and the American Physiological Society.]

Join us for the US launch of *Physiological Reports* at Experimental Biology 2013 in Boston, April 20-24. *Physiological Reports* will be accepting submissions from March 2013—we will keep you posted. Publication fees will be waived for the first 100 papers submitted.

Make plans now to attend the Refresher Course at EB2013

2013 Refresher Course: Immunology for the Physiologist

Sponsored by APS Education Committee

Organizers: Michael J. Ryan, and Kim Henige
Date: Saturday, April 20, 2013
Time: 8:00 am - 12:00 PM

Talks:

Crash Course in Adaptive Immunity
Ross M. Kedl
Univ. of Colorado Anschutz Medical Campus

Crash Course in Innate Immunity
David M. Mosser
Univ. of Maryland

Neural Control of the Immune System
Peder S. Olofsson
Feinstein Institute for Medical Research

Immune Control of the Cardiovascular System
David G. Harrison
Vanderbilt Univ. School of Medicine

New Regular Members

*transferred from student membership

Julio Alcayaga
Univ. of Chile
Shinichi Asano*
Univ. of Colorado, Boulder
Alip Borthakur
Univ. of Illinois, Chicago
Brad Buckley
Portland State Univ., OR
Olivier Caillard
INSERM, Marseille, France
Douglas R. Cavener
Penn State Univ.
Charles S. Chung
Univ. of Kentucky, Lexington
Michael Clague
Univ. of Liverpool, UK
Joshua Allan Cotter*
Univ. of California, Irvine
Sierra Dawson
Univ. of Oregon, Eugene
Mirela Barros Dias
UNESP, Brazil
Casey O. Diekman
Ohio State Univ.
Cynthia J. Downs*
Univ. of Nevada, Reno
Simiat Olanike Elias*
Lagos State Univ., Nigeria
Abbas Bubakar El-Ta'alu*
Bayero Univ., Kano, Nigeria
Nina C. Franklin*
Univ. of Illinois, Chicago
Graham Mathew Fraser*
Univ. of Western Ontario, Canada
Laura J. Gannon-Murakami
Johnson State College, Shelburne, VT
Deda C. Gillespie
McMaster Univ., Canada
Nicholas Perry Greene*
Univ. of Virginia
Earl Howard Harrison
Ohio State Univ.
Fernan Jaramillo
Carleton College, MN
Tomohiro Kawamura
Osaka Univ., Japan
Jun Hee Kim
Univ. of Texas, San Antonio
Jeff Kramer
Spinal Modulation, Menlo Park, CA
Pankaj Kumar
Rajiv Gandhi Univ., Itanagar, India
Chao Li
Virginia Commonwealth Univ.
Ru Xiu Liu
China Acad. Med. Scis., Beijing
Brandon R. Macias
Univ. of California, San Diego
Karen M. Mathis
Univ. of Cincinnati, OH
John H.R. Maunsell
Harvard Med. Sch., MA
Owen McCarty
Oregon Health & Science Univ.
Aaron Jeffrey Mercer
Univ. of Michigan
Kamal A. Mohammed
Univ. of Florida, Gainesville
Jayasri Nanduri
Univ. of Chicago, IL
Michael D. Nelson*
Cedars-Sinai Med. Ctr., Los Angeles, CA
Luqman A. Olayaki*
Univ. of Ilorin, Kwara, Nigeria
Jean-Jacques Orban De Xivry
Univ. Catholique De Louvain, Belgium
Brad Palmer
Univ. of Vermont, Burlington
Craig Porter*
Univ. of Texas Med. Branch, Galveston
Thomas C. Pulinilkunnill
Dalhousie Univ., New Brunswick, Canada
Corey L. Reynolds
Baylor College of Med., TX
Willard William Sharp
Univ. of Chicago, IL
Cris Allan Slentz
Duke Univ. Med. Ctr., NC
Lyman Blaine Spaulding
Denver School of Nursing, CO
Mette Staehr*
Univ. of Southern Denmark
Ronald Szymusiak
VAGLAHS UCLA Sch. of Med., CA
Jiang Tian
Univ. of Toledo, OH
Jacqueline E. Vigilance
Univ. of West Indies, Barbados
Edwar Vul
Univ. of California, San Diego
Breanna K. Wallace*
Onco Med. Pharma, San Mateo, CA
Bai Fang Zhang
Wuhan Univ., China

New Graduate Student Members

Christopher E. Allen
Univ. of Alabama, Birmingham
Matti Douglas Allen
Univ. of Western Ontario, Canada
Caitlin S. Baxter
Univ. of Maryland
Forrest Andrew Brooks
Univ. of Colorado, Boulder
Charlotte Buckley
Univ. of Edinburgh, UK
Ronald Budnar
Univ. of North Texas
Yi-Chun Chen
Indiana Univ.
Shannon Desmond
Argosy Univ., CA
Steen K. Fagerberg
Aarhus Univ., Denmark
Sigurd Hartnett
Univ. of South Dakota
Craig A. Hill
St. Louis Univ., MO
Amanda Laque
Pennington Biomed. Res. Ctr., LA
Beibei Luo
Shanghai Univ. of Sport, NC
Laura Michalick
Charité, Univ. of Berlin, Germany
Shwetha Mureli
Univ. of Illinois, Chicago
Jordan Patik
Univ. of Texas
Brian Christopher Prall
Emory Univ., GA
Karine Schaal
Univ. of California, Davis
Bun Tsuji
Univ. of Tsukuba, Japan
Justin P. Van Beusecum
Georgia Health Sci. Univ.
Jeung Ki Yoo
Univ. of Florida
Amin Zandvakili
Albert Einstein College of Med., NY

New Undergraduate Student Members

Timothy M. Covi
Univ. of Colorado, Denver
Daniel Alan Murphy
Univ. of Louisville, KY
Alice Amelia Rear
Univ. of Oregon

New Affiliate Members

Eric De Vos
California Polytechnic State Univ.
Julia Olsen
Delaware State Univ.
Aaron W. Young
Boston Univ., MA

Physiology in Perspective: The Walter B. Cannon Award Lecture (Supported by the Sucampo AG)

Michael J. Joyner
Mayo Clinic

"Is Physiology Redundant?"

Saturday, April 20, 5:30 pm

Henry Pickering Bowditch Award Lecture

Johnathan Tune
Indiana Univ. Sch. of Med.

"Translational Insights Into the Regulation of Coronary Blood Flow

Sunday, April 21, 5:45 pm

Claude Bernard Distinguished Lectureship of the APS Teaching of Physiology Section

Eric Mazur
Harvard School of Engineering and Applied Sci.

"Confessions of a Converted Lecturer"

Sunday, April 21, 10:30 am

Hugh Davson Distinguished Lectureship of the APS Cell and Molecular Physiology Section

Amira Klip
The Hospital for Sick Children

"Insulin Signal Transduction Meets Vesicle Traffic via Rab GTPases and Unconventional Myosins"

Sunday, April 21, 2:00 pm

Ernest H. Starling Distinguished Lectureship of the APS Water and Electrolyte Homeostasis Section

Donald E. Kohan
Univ. of Utah Health Sci. Ctr.

"Collecting Duct Endothelium: The Last Word in Sodium and Water Excretion and Blood Pressure Regulation"

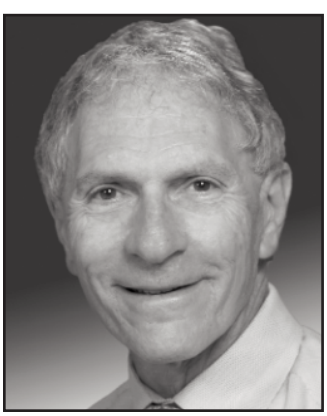
Sunday, April 21, 3:15 pm

Carl Ludwig Distinguished Lectureship of the APS Neural Control and Autonomic Regulation Section

Roger A. Dampney
Univ. of Sydney

"Central Mechanisms Regulating Co-ordinated Cardiovascular and Respiratory Function in Stress and Arousal"

Monday, April 22, 8:00 am



Solomon A. Berson Distinguished Lectureship of the APS Endocrinology and Metabolism Section

Ellis R. Levin
Univ. of California, Irvine

"Extra-nuclear Estrogen Receptors: Functions for Physiology and Patho-Physiology"

Monday, April 22, 10:30 am

Edward F. Adolph Distinguished Lectureship of the APS Environmental and Exercise Physiology Section

Douglas R. Seals
Univ. of Colorado

"The Remarkable Anti-aging Effects of Aerobic Exercise on Arteries"

Monday, April 22, 2:00 pm

Joseph Erlanger Distinguished Lectureship of the APS Central Nervous System Section

Charles W. Bourque
McGill Univ. and Montreal Gen. Hosp.

"Verney's Osmoreceptor: An Integrated Unit Comprising Ion Channels, Glial Cells and Mechanosensitive Neurons"

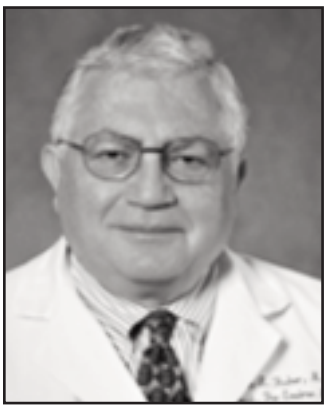
Monday, April 22, 3:15 pm

Carl W. Gottschalk Distinguished Lectureship of the APS Renal Section

Jeff Sands
Emory Univ. Sch. of Med.

"Regulation of Renal Urea Transport"

Monday, April 22, 3:15 pm



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

Aron Fisher
Univ. of Pennsylvania Sch. of Med.

"The Serpentine Path to a Novel Mechanism Based Inhibitor of Acute Inflammatory Lung Injury"

Tuesday, April 23, 10:30 am

Robert M. Berne Distinguished Lectureship of the APS Cardiovascular Section

David J. Lefer
Emory Univ. Sch. of Med.

"A Long and Winding Road: The Story of Nitric Oxide in the Heart"

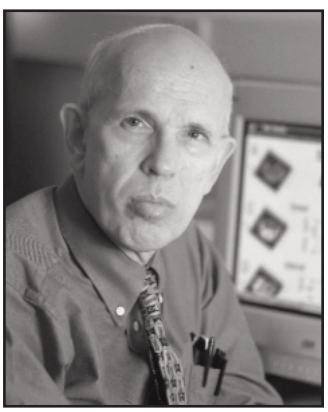
Tuesday, April 23, 2:00 pm

August Krogh Distinguished Lectureship of the APS Comparative & Evolutionary Physiology Section

Stan Lindstedt
Northern Arizona Univ.

"From Tusko to Titin: Giant Insights from Comparative Physiology"

Tuesday, April 23, 3:15 pm



Horace W. Davenport Distinguished Lectureship of the APS Gastrointestinal & Liver Section

Ole H. Petersen
Cardiff Univ.

"Calcium Signal Mechanisms in Epithelial Cells: Roles in Physiology and Pathology"

Tuesday, April 23, 3:15 pm

APS President's Symposia
Nobel Prize in Physiology or Medicine Lecture

Linda Buck
Fred Hutchinson Cancer Res. Ctr.

"Unraveling Smell"

Wednesday, April 24, 4:45 pm

The Physiologist
Vol. 56, No. 2, 2013

Far From Home
Challenges Facing International Graduate Students, Postdocs, & Professionals Living and Working in the US

Caroline A. Rickards, PhD
Univ. of North Texas Health Science Center

As we complete one phase of our education and/or training and start thinking about the next step, many of us consider some time "far from home:" not just across state borders, but across continents, oceans, and often across a great cultural divide. This move may be a transition from undergraduate to graduate school, or graduate school to a postdoc, or even from postdoc to your first "real" job. So what are the challenges facing those of us who brave the unknown in a country "far from home"? In this column I hope to provide some insight as an Australian living and working in the US for the past seven years, in addition to enlightening anecdotes and advice from others who have faced a similar transition.

Caroline A. Rickards

Challenge 1: Immigration

Let's face it, the number one challenge endured by all of us who come to the US from another country is immigration... and this love/hate relationship starts well before we even get to the US border. While I certainly won't provide legal advice, I would like to share my top five tips on how to avoid issues with immigration.

Start early! This includes the initial contact with your visa sponsor and applies to all steps along the way, from applying for extensions, to transfers of sponsorship, and changes in status. You don't want to be sent home prematurely because you didn't submit your application with enough lead time for unanticipated delays in processing. Similarly, as I'm sure you have all heard before, don't book your plane tickets until you have the visa in your passport - this can be a costly mistake!

Make friends with your international programs office. Maintaining a good relationship with this office is essential for successful navigation of the immigration process. Always provide them with required paperwork and documents as soon as they ask for it.

Always keep your passport and visa in a safe place and make sure they are both current. Many people are careful about keeping their visa current but forget that their passport is about to expire. Often you don't even have to go home to do this as many countries allow you to renew your passport through their embassies/consulates in the US.

Keep copies of everything. Depending on your visa type, you will often have to supply a mountain of paperwork to your sponsor—make sure you keep a copy for yourself. Also, keep copies of all supporting documentation (e.g., DS 2019 for J-1 visas) as you often need these as you adjust status or apply for permanent residency.

Don't get caught without all of your supporting paperwork at the point of immigration when you attempt to enter or re-enter the US—you may not always get a friendly agent who is willing to let you through because of your accent! Sometimes you may even need proof of immigration status when you are within the borders of the US, such as at immigration check points near the US-Mexico border. As a general rule, I keep my passport and visa with me at all times.

Challenge 2: Who Am I?

Social Security Number: If you come to the US to work, the number one item on your "To Do" list after arriving is to apply for your social security number (SSN). This is your ticket to an identity in the US and often a pay check! Considering its importance, obtaining a SSN is actually a pretty easy process – check out the Social Security Administration website for instructions on how to apply. Just remember that you will need evidence of your identity from your home country (e.g., passport, birth certificate) and proof of employment. Once you have your number, memorize it, don't carry it with you, and be prepared to recall it whenever you're asked "what's your last four?"

Credit History: So the conundrum is, "How do I get a credit history when I

Caroline Rickards, PhD, is an Assistant Professor in the Department of Integrative Physiology at the Univ. of North Texas Health Science Center (UNTHSC) in Fort Worth, TX. Caroline completed her undergraduate and graduate education in her home country of Australia before moving to the US in 2005 to pursue a postdoctoral fellowship at the US Army Institute of Surgical Research in San Antonio. Caroline commenced her current position at UNTHSC in the summer of 2012 following three years at the Univ. of Texas at San Antonio as a Research Assistant Professor.

Caroline's general research interests encompass understanding the integrated cardiovascular, autonomic and cerebrovascular responses to hypovolemic stressors in humans, with an emphasis on hemorrhage and orthostasis. Caroline's current projects focus on examining the role of hemodynamic variability (i.e., in arterial pressure and cerebral blood flow) on the protection of cerebral tissue perfusion and oxygenation, and how this may lead to greater tolerance to central hypovolemia. It is anticipated that these studies will have potential clinical applications to stroke, traumatic brain injury, hemorrhage, migraine, and orthostatic intolerance.

Caroline is actively involved in the APS as a member of the Women in Physiology Committee and the Cardiovascular Section Trainee Advisory Committee.

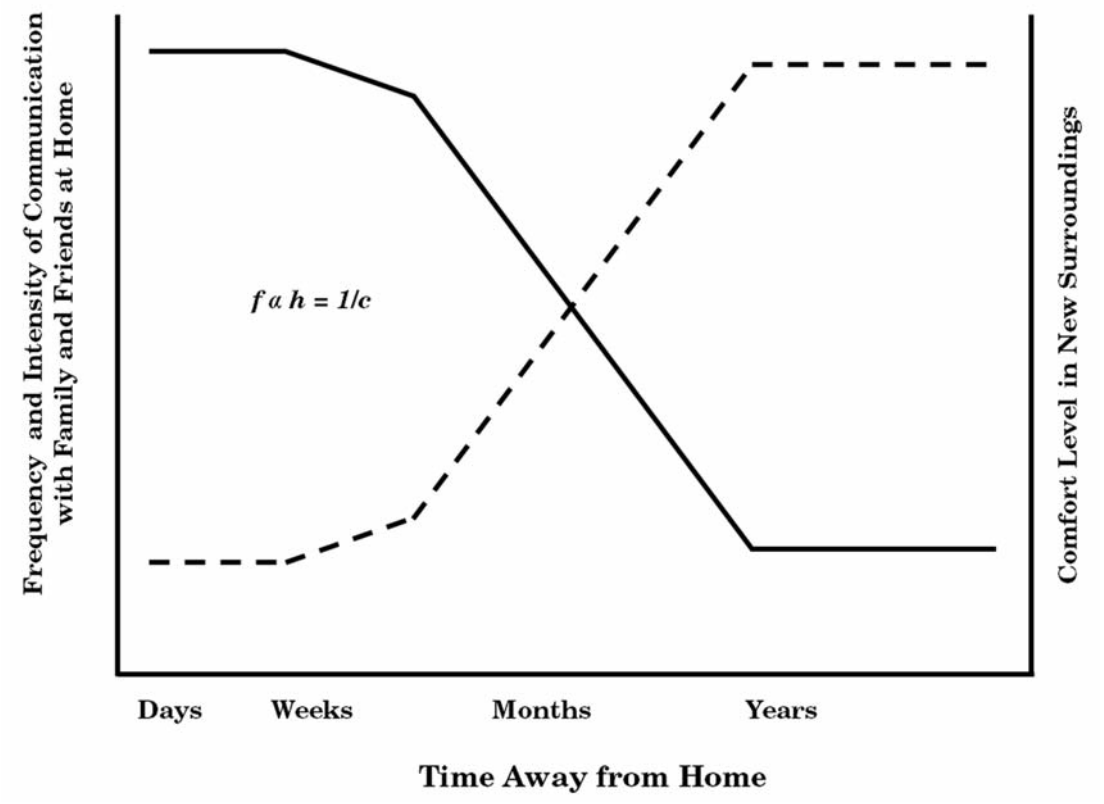
can't even get a credit card, and how do I get a credit card when I don't have a credit history?" For most of us, we have some sort of credit history at home, but this is usually not recognized when we start living in a new country. Unfortunately, even simple tasks, such as buying a cell phone, are impossible without a credit card. I was very fortunate to have one of my new work colleagues put me on her cell phone contract, but not everyone can rely on the kindness of new-found friends! The best solution I found was to apply for a "secured credit card" through my bank; this is basically a credit card with a very low limit (mine was $250) that you have "secured" by paying the limit upfront. You can use it like a credit card to build your credit history, but the bank has a guarantee that if you miss your payment, they can reclaim your secured money. Other ways of improving your credit history include paying your bills on time (including rent and/or car loan) and avoid applying for credit/store cards as each enquiry is a black mark against your name—shred those tempting offers that arrive in the mail! Don't worry, with some patience and self control you will eventually establish a credit history so you too can have a wallet overflowing with store credit cards!

Challenge 3: Homesickness

The frequency and intensity of communication with family and friends (termed "f") is generally exaggerated at the beginning of time away from home, gradually tends to decrease as time progresses, and is inversely related to your comfort level (termed "c") in your new surroundings (i.e., a diminishing level of homesickness, termed "h") (see Fig. 1). For example, for the first week in the US I called home every day, and for the first year I called my best friend every Friday night. For the first three months I wrote a journal detailing my escapades called "Adventures of the Little Aussie in Texas," which I emailed out to family and friends each week—this was before the blogosphere boom! Now, seven years on, I still call my Mum on Skype every Friday night, but contact with others has gradually tapered off to what would be expected living half way around the world in a completely different time zone. The novelty of living far from home also gradually wears off as you settle into to life at home and at school or work, and this can sometimes exacerbate feelings of homesickness. My best advice is to find things to occupy your down-time: find a new hobby, make and socialize with new friends, start exercising. My non-work distractions included joining a local gym and running group and learning how to drive (yes, I didn't have a driver's license when I moved to Texas!). Often the more your new home feels like your old home, the less homesick you will be. Also, utilize the many methods of communication now available to regularly keep in contact with family and friends back home, including Skype, iChat, Facebook, and Twitter. You no longer have to wait for weeks for that letter to arrive from across the Pacific Ocean!

Challenge 4: Culture Shock

The biggest culture shock for me coming from the relatively liberal city of Melbourne, Australia to San Antonio, TX was seeing billboard advertisements for gun shows, and the "No Guns Allowed" stickers on the bus door! For others there many more serious and difficult differences in culture, including language, religion, dress codes, dealing with conflict in the workplace, communicating with supervisors, adapting to new and unfamiliar study habits of your peers, and trying to understand social and workplace etiquette. I remember thinking it was rude that people didn't say "no worries" or "you're welcome" when you thanked them for holding a door open. It took me a while to realize that "uh-huh" or "sure" was their abbreviated equivalent to "you're welcome." And while English is my first



language, I often have problems being understood by the locals—try saying water and beer without enunciating the "r" sounds, let alone spelling out my last name! It is certainly understandable why many international visitors gravitate towards others from similar backgrounds and cultures—I certainly latch on to any Aussie or Kiwi I have contact with. However, you do have to find a balance between the comfort and familiarity of the known and branching out into the sometimes daunting unknown.

Also, remember that cultural sensitivity goes both ways. While there are bound to be many differences between your home country and your new place of residence, your new friends and work colleagues will soon tire of the constant (often negative) comparisons... "back home we do things this way...", "well that's not what it's like at home...", "I wish things were more like home..." Try to remember that it is often insulting to constantly criticize and ridicule someone else's home. Try to focus on the positive aspects of your new country, like "Wow, I can't believe I can actually find jeans that fit without tailoring!" (I'm 5'0"), or "I love the convenience of drive-through banks/pharmacies/Starbucks!" Treating your experience as an adventure, exploring your new space and finding the positive aspects of your new home often helps with subduing homesickness... it takes a while, but it works.

Challenge 5: Do I stay or do I go?

Once your initial experience far from home comes to an end (e.g., you finish grad school or your postdoc funding runs out), you then have to consider, what next? Do you want to stay in this new country that you have kind of become accustomed to? Does this now feel more like home than home? Do you now have all the trappings of home: a partner, kids, dogs, a mortgage, a credit history, a turkey pan? Are there employment or training opportunities in your home country that you can go back to or is there more available in your new country, or maybe another country altogether? Are there immigration issues you have to consider? Do you have aging parents or dependent siblings that need you back home? This decision is so filled with choice, obligation, guilt, and potential lost and gained opportunities, that sometimes it's hard to absorb all of these considerations. For me, personal (partner/dogs/mortgage/turkey pan) and professional (grant, tenure-track faculty position, proximity to collaborators) opportunities have been the major selling points to remain in the US, although I cannot deny that a large part of me often yearns for a tram ride along the streets of Melbourne, the smell of eucalyptus trees, the sound of Kookaburras announcing the arrival of a thunderstorm, and Vegemite on toast! I guess regular visits home and an occasional care package full of Australian goodies from my Mum will have to suffice!

Think about your options carefully, and remember that nothing is forever (in a good way of course!). Sometimes some extra time away from home will prepare you for new opportunities and broaden your options. Who knows, maybe your new temporary life in the US will become permanent.

To comment on this article, go to: http://www.the-aps.org/forum-international. ❖

EB 2013 Science Policy Sessions

How to be a science advocate in your own backyard

Interested in learning more about advocacy opportunities at the local, state and national level? Mark your calendars for the Science Policy Committee's symposium at EB 2013!

Saturday, April 20, 2013, 1:00 PM; Room 206B

As resources become scarce and competition for funds increases we contend that advocacy is an essential component of modern academic science, critical not only to securing support for science, but also for encouraging broader participation in the sciences and ensuring a diverse and vibrant future workforce. We will give researchers practical tips and tools for getting started and help them understand where the most accessible opportunities are.

Presentations

Gina C. Schatteman, Univ. of Iowa.
Case studies: local and national programs.
Tim Leshan, Northeastern Univ.
Facilitating outreach through research universities.
Michelle R. Sukup Jackson, MIT.
The student perspective and action in the science policy intersection.
William T. Talman, Univ. of Iowa/VA Med. Ctr.
Getting a conversation started.

Program and Policy Updates from the NIH and NSF

Get the latest news from leadership at the NIH and NSF!

Wednesday, April 23; 2:30–4:30 PM; BCEC Room 207

Federal funding agencies play important roles in shaping research by developing programs to address scientific needs and setting policies that govern the distribution of resources. Thus it is critical for investigators to keep up to date on the activities of the agencies that fund their work. This session will feature representatives of the National Institutes of Health and the National Science Foundation who will provide updates on existing programs, address new initiatives and research priorities at their agencies, and outline plans for future activities and emerging opportunities for researchers. Time will be provided for discussion and questions.

Presentations

Story Landis, NINDS/NIH. Neurosciences at NIH.
Griffin Rodgers, NIDDK/NIH. NIDDK program and policy updates.
John C. Wingfield, NSF. Biological sciences at the National Science Foundation

The Physiologist
Vol. 56, No. 2, 2013

Finding Advocacy Opportunities: How Can Scientists Make a Difference

Jacquie Calnan
President, Americans for Medical Progress

I was delighted this past fall to join with members of the APS Animal Care and Experimentation Committee, staff and guests in a wide-ranging discussion on how to bolster public appreciation of the necessity for animal-based research. APS has long been a leader in encouraging scientists to engage various audiences on the animal research issue through variety of approaches.

As a professional society, the APS seems to recognize the importance of talking about research. That is, it realizes that scientists must avoid taking the "ostrich" approach as far as making the case for science in the face of animal rights criticism. Over the past two decades, my organization, Americans for Medical Progress (amprogress.org), has focused on providing research advocates with the resources (http://amprogress.org/amp_materials) and tools to help in their personal outreach initiatives.

Scientists are at the forefront of biomedical advances, so who better to explain the importance of research, the need for animal models, and the care that the animals receive?

Public outreach is best served by speaking informatively to members of the public, not debating animal rights activists. Ben Franklin once said, "Mankind is divided into three classes – the immoveable, the movables and those who are the movers." We must be the movers: we can't cede the ground to the activists. While we'll never change the minds of the hardcore animal rights believers – and we shouldn't squander our resources trying to do so – the vast majority of the people we meet will be the movables: those we have a true opportunity to convince of the importance of animal research.

We know that the facts support our case, and it's a straightforward matter to build a strong argument from those facts. But we must also address people's natural concerns about the welfare of the animals, and relate to our audiences on an emotional level, as individuals passionate about and proud of their research.

In seeking public support, the battle isn't only for minds – it's also for people's hearts.

Jacquie Calnan

AMP
AMERICANS FOR MEDICAL PROGRESS

So don't be afraid to show your own heart. Use relevant examples to illustrate the care given to the animals, and talk about your own experience or that of a loved one in fighting a disease or recovering from an injury.

Connect with your audience on a personal basis, whether you're giving a school talk, meeting with public officials, writing a blog post, or talking to your front office staff. That personal connection is most likely what will determine what they will take away from the encounter: how you related with them – not the specifics of what you said. Let them see your commitment and concern: share what you most care about.

We must create what I call "light bulb moments" in advocacy. Once people hear our case, most find animal research is simply a matter of common sense, and they're receptive to hearing more. We've all seen that response in talking one-on-one with relatives, friends and neighbors about research: the light bulb of understanding that comes on.

The overall goal is to foster many thousands of such light bulb moments—to make sure that Americans understand and continue to support the ongoing quest for treatments and cures.

Those you speak with may not know the science, but they will understand the logic behind the need to use animals in research (http://amprogress.org/AnimalResearchFAQ). And when they hear of your commitment to animal welfare, that there are people in your facility who love animals and whose job it is to focus on their care and well-being, you will put to rest their greatest concern about animal research and win their hearts as well as their minds.

In a phrase: get out and tell your story. The simple fact is that if you don't, your critics will offer a distorted account!

People need to hear of your successes; they need to hear personal stories of how the advances you and your colleagues are working towards will change their lives for the better. This is the triumphant story of biomedical research: the treatments and cures that are now reality, as well as those still to come.

So make a start. Take advantage of the opportunities that come to you in your daily life.

For those new at this, talk first with those you know—friends and family. Give them a chance to ask questions, voice their opinions and concerns. This will help build your confidence to reach out to broader audiences.

You can find ways to bring elements of your story up in informal settings, too, whether at a party, the gym, waiting in line at the supermarket, especially if you are naturally an extrovert. But if it doesn't come easily to you, you should challenge yourself to take just one step every day. Talk with your cab driver, your neighbor or the passenger seated beside you on your next flight. The more you do this, the more natural, the more comfortable it becomes.

Don't forget your coworkers. Sure, everyone in your lab understands why animal research is vital, but what of the many others on campus, from the clerk who orders your supplies to teaching assistants in other fields who might initially reject the use of animals in research? Work with your institution's communications office to invite a trusted reporter from the campus paper in to write a feature story about ongoing research and the care the ani-

mals receive. Ensure that the information about animal welfare on campus websites—both external and internal—is correct. Consider holding a brown bag lunch or similar informal forum to get the word out to all. You don't want anyone in your institution to be ill-informed or taken by surprise with the "revelation" that animal research is being conducted on campus. Animal rights activists have a long history of leveraging access to facilities through sympathetic employees, or staffers with lingering concerns about research.

Get invited into an elementary or secondary school classroom, either for career day or in a science class. Teachers are inundated with materials and visits by animal rights activists and most would welcome a fresh perspective. The staff of APS, along with those of us from Americans for Medical Progress and other advocacy groups can help you prepare and guide you to the many resources available to you (http://amprogress.org/animal_research_links).

Remember that kids today are the next generation of scientists, lawmakers and voters. They'll determine the future of biomedical research. We need to be where they are, and that means not just schools but online.

Social media is a custom-made tool for reaching young audiences. With just a few minutes of effort a day, you can share articles, make comments and provoke the interest of potentially thousands of readers.

APS has already established itself in this evolving landscape with Facebook and Twitter accounts that circulate regular postings about research. We at AMP—along with most scientific and research advocacy organizations—are also involved. So make a start: engage with us on Twitter (@curedisease): "like" our pages on Facebook; and start sharing our materials with your own online community.

For those of you who want to write more than 140 characters or a paragraph of comment, there are many outlets. You can start a blog of your own, if you are so inspired, or write a one-time guest commentary about your research. Both Speaking of Research (http://www.speakingofresearch.com) and Understanding Animal Research's http://www.AnimalResearch.info, offer good places to begin, and much in need of scientists' articles to add to their informative content.

Whatever the medium, AMP can help you create a public outreach style that is right for you. Work with us – contact us at amp@amprogress.org. There's so much you can do and ways we can help you. Whatever format you choose, whatever time you can offer, you can contribute toward informing the public and creating a positive environment for research. ❖

Resources for Talking About Animal Research

Frequently Asked Questions about Animal Research
- http://www.amprogress.org/AnimalResearchFAQ
- http://njabr.com/education/frequently-asked-questions/
- http://www.understandinganimalresearch.org.uk/resources/faqs/

Talking Points
- http://www.animalresearchcures.org/advocacytalkingpoints.htm
- http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2002542/
- http://www.ncabr.org/aboutresearch/

Contacting Congress
- http://www.animalresearchcures.org/advocacycontact.htm

Lesson Plans
- http://www.fbresearch.org/TwoColumnWireframe.aspx?pageid=187
- http://nwabr.org/curriculum/animals-research
- http://sharehappens.org

Working Group Says NIH Should End Most Chimp Research

The NIH Working Group on the Use of Chimpanzees in NIH-supported Research has recommended that the majority of agency-owned chimpanzees be retired from research, and that all such chimpanzees be placed in "ethologically appropriate" environments within five years. The Working Group said that only 50 of nearly 400 NIH-owned chimpanzees should remain eligible for agency-sponsored biomedical research. (NIH supports another 91 research animals that it does not own.) The Working Group also said that half of the 22 biomedical, behavioral, and comparative genomics research projects involving NIH owned or supported chimpanzees should be ended because they do not meet criteria specified in a 2011 Institute of Medicine (IOM) study.

The Working Group's findings, announced at the January 22, 2013 Council on Councils meeting, were forwarded to NIH Director Francis Collins. NIH then published a Request for Information (http://grants.nih.gov/grants/guide/notice-files/NOT-OD-13-026.html) on the report. When the comment period closes on March 23, Collins will determine how to proceed.

The Working Group was established in February 2012 to determine how NIH should implement the recommendations of the IOM report Chimpanzees in Biomedical and Behavioral Research: Assessing the Necessity. The IOM report, which was released in December 2011 after a year-long study, had been commissioned at the behest of Congress to determine whether NIH should continue to conduct chimpanzee research. It concluded that the scientific need for such research is decreasing as new models become available. Nevertheless, chimpanzees are still needed for certain studies on monoclonal antibody therapies, comparative genomics, and behavior. The panel was split on whether chimpanzees are still needed for hepatitis C research so it deferred that question to NIH.

At present 191 NIH-owned chimpanzees are eligible for research plus the 91 the agency supports but does not own. These animals are located at two facilities in Texas. Another 219 NIH-owned animals are already either retired or designated for retirement. Half are already living at the Chimp Haven sanctuary in Keithville, LA, and the remainder is in the process of being

transferred to Chimp Haven from a Louisiana research facility. In addition, 169 NIH-owned chimpanzees fall in an intermediate "research reserve" classification and are currently housed at a New Mexico facility that does not conduct research.

One of the primary tasks of the working group was to assess active research projects using the criteria set forth in the IOM report. There are 22 such grants involving biomedical, genomics, or behavioral research projects plus another eight grants for chimpanzee housing and care of the animals, but some of these also contain research elements. The Working Group recommended ending six of the nine biomedical projects and five of the 13 comparative genomics, proteomics or behavioral research projects. It also said that NIH should end one of the eight colony housing and care grants. In addition, the Working Group called for ending specific research elements in one of the biomedical projects and three of the colony housing and care grants. The disposition of individual projects was not disclosed because the recommendations are not yet final. However, the report said the projects should be ended in a way that preserves the scientific value of the research.

Although two comparative genomics/proteomics were approved without conditions, the remaining 16 grants in all categories were only given conditional approval. This means they are ineligible for no-cost extensions, and renewals will subject to review by a new oversight panel. This Oversight Committee for Proposals Using Chimpanzees in NIH-supported Biomedical Research will be an independent panel that will provide an additional layer of scrutiny after the standard reviews and approvals. It will utilize a decision matrix developed by the Working Group based on the criteria supplied by the IOM report. These criteria include assessing whether the study addresses an important public health need; whether another research model is available or the research could be ethically performed with human subjects; and whether the animals will be maintained in an ethologically appropriate environment or natural habitat. In addition, the Oversight Committee will weigh the anticipated benefits of the research against the "burdens" it would impose on the animals. The rationale behind these high standards is the IOM Committee's conclusion that "[Th]e chimpanzee's genetic proximity to humans and the resulting biological and behavioral characteristics not only make it a uniquely valuable species for certain types of research, but also demand a greater justification for conducting research using this animal."

Although the IOM Committee used the term "ethologically appropriate physical and social environment," it did not define it. The term was meant to reflect the panel's recommendation that chimpanzees be housed in conditions that imposed "minimal physiological and psychological harm to the animals." However, it was left to the NIH Working Group to define this term. The Working Group's definition was based on the notion that an ethologically appropriate environment "does not simply allow but also, importantly, promotes a full range of behaviors that are natural for the species." Such an environment should replicate key features of the chimpanzees' natural habitat, which were summarized in 10 recommendations that addressed social groups; housing size, complexity, and features; animal training; human interactions; and individual animal care plans. The Working Group recommended that captive chimpanzees be allowed to live in large, complex social groups of at least seven animals, with no animal living alone for an extended period unless there are "clearly documented medical or social circumstances" requiring this. Each animal should have at least 1,000 square feet of space, with year round access to the outdoors and natural substrates such as grass, dirt and mulch. They should have at least 20 feet of vertical climbing space, and opportunities for all members of a group to travel, feed, and rest in elevated spaces as they do in the wild. In addition, they must be able to forage for food and have daily access to nest-building materials. The Working Group also said that chimpanzees should be trained to participate voluntarily in both research and routine animal care activities and specified that "positive reinforcement training is the only acceptable method of modifying behaviors."

NIH faces enormous challenges in implementing these recommendations. None of the facilities currently housing active or research-eligible chimpanzees were built according to these specifications. Moreover, Chimp Haven, the sanctuary supported by NIH, may not be in a position to take on another large cohort of animals. Its population of 109 animals is already slated to double with the addition of 110 newly "retired" chimpanzees that NIH decided in December to send there. In addition, Chimp Haven is about to reach the $30 million cap Congress placed on the amount of money NIH could spend on chimpanzee sanctuaries. Therefore, Congressional action and additional funding will have to be found in order to carry out the Working Group's recommendations.

Congress Averts Fiscal Cliff with Last Minute Deal

On January 1, 2013, Congress passed the American Taxpayer Relief Act of 2012 (H.R. 8) with broad bipartisan support. Passage of this legislation prevents the country from going over the "fiscal cliff," a term widely used to describe the effects of a set of tax increases and spending cuts that were scheduled to go into effect on January 2, 2013.

H.R. 8 addresses the revenue side of the equation by raising tax levels for individuals earning more than $400,000 per year and families earning more than $450,000 per year. However, the issue of spending cuts remains unresolved. Congress delayed the onset of sequestration until March 1, 2013, but at that point, cuts of as much as 10% are expected to take effect on all federal programs, including those that fund research.

Over the next several months, Congress must address multiple major financial issues including raising the debt ceiling, providing relief for victims of Hurricane Sandy, completing the fiscal year (FY) 2013 appropriations bills, and what to do about sequestration. In addition to the broad implications of these issues will have for the nation as a whole, the courses of action Congress chooses will have a profound impact on research. While Congress grapples with these financial issues, the National Institutes of Health continues to operate at FY 2012 levels, and is funding non-competing awards at 90% of the previously committed level. See this announcement for more information: http://grants.nih.gov/grants/guide/notice-files/NOT-OD-13-002.html. ❖

Calls for Papers

Current Calls for Papers

Physiological Genomics

Updates on Mapping Quantitative Trait Loci
(March 31, 2013)

Mitochondrial Metabolism

NextGen Sequencing Technology-Based Dissection of Physiological Systems

Technology Development for Physiological Genomics

AJP-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

Physiology and GI Cancer

AJP-Heart and Circulatory Physiology
Pathophysiology of Hypertension
(March 31, 2013)

AJP-Lung Cellular and Molecular Physiology
Bioenginering the Lung: Molecules, Materials, Matrix, Morphology, and Mechanics

Translational Research in Acute Lung Injury and Pulmonary Fibrosis
(July 1, 2013)

Real-time Visualization of Lung Function: from Micro to Macro
(January 1, 2014)

American Journal of Physiology—Endocrinology and Metabolism

Islet Biology
(June 30, 2013)

Novel Aspects of Adipocyte Biology
(June 30, 2013)

CNS Control of Metabolism
(June 30, 2013)

Journal of Applied Physiology
Upper Airway Control and Function: Implications for Sleep-Disordered Breathing
(April 1, 2013)

AJP-Regulatory, Integrative, and Comparative Physiology
Fetal and Neonatal Programming: Epigenetic Modification of Phenotype
(June 30, 2013)

Integrative and Translational Physiology: Inflammation and Immunity in Organ System Physiology
(June 30, 2013)

Integrative and Translational Physiology: Integrative Aspects of Energy Homeostasis and Metabolic Diseases
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AJP-Renal Physiology
Renal Solute Co-Transporters and Exchangers
(July 1, 2013)

Chronic Kidney Disease and Fibrosis
(July 1, 2013)

Renal Acid-Base Physiology
(July 1, 2013)

Pathophysiology of Acute Kidney Injury
(July 1, 2013)

American Journal of Physiology--Cell Physiology
Cellular Mechanisms of Tissue Fibrosis
(September 30, 2013)

Cellular Circadian Rhythms
(May 31, 2013)

Stem Cell Physiology and Pathophysiology
(May 31, 2013)

Proteomic and Metabolomic Approaches to Cell Physiology and Pathophysiology
(May 31, 2013)

For a complete list of current Calls for Papers, visit *The Physiologist* website.

Letter to Martin Frank

Sheldon F. Gottlieb writes: "Thank you for the happy birthday wishes and the invite to tell about my doings during the last decade.

"During this time I wrote a book, *The Naked Mind*, (Best Publishing Co.) which permitted me to put in words my integrative interests as a scientist, educator and political activist: the theme of the book is the deadly influence of ideology on society and its role in diverse social political arenas ranging from tensions arising from science, religion, evolution and creation, church-state issues, homosexuality, the conversion and beatification of Edith Stein; I am the only person to uncover the reasons for her conversion, world-wide religiously induced hate, antisemitism, medicine (using multiple sclerosis as the paradigm) and education. To counter the deadly influence of these ideologies, I proposed an outline for a progressive, modern integrated K-12 education program based on science, technology and reason integrated with the social, political and historical sciences, language and the fine and performing arts. The book garnered rave reviews; the acclaim did not translate into financial success.

"Professionally, I wrote two chapters for the book, *Hyperbaric Oxygen for Neurological Disorders*, (Edited by John Zhang, Best Publishing Co., 2008): "The Case For Hyperbaric Oxygenation In Multiple Sclerosis" and "HBO For Cerebral Palsy."

"I also had the opportunity to work with a group treating veterans with post-traumatic stress disorder (PTSD). It entailed the use of a technique I helped to develop a decade and half earlier in which we could diagnose the extent of brain injury, determine the presence of potentially recoverable brain tissue (neurons and probably glial cells), recover the tissue, follow the course of therapy and help to define the end point of therapy. The results in overcoming the physical and psychological problems the PTSD vets manifested were excellent as demonstrated by before and after detailed neurological and psychological testing, their behavior and the improvements in the appropriate associated brain areas as seen on the comparative before and after oxygen imaging scans.

I also spent time trying to convince the the leadership of the APS that retired physiologists are a potential and valuable (underused) resource. I have long maintained that retired physiologists, as well as members of other professional societies, may be willing to help educate the public and local, regional, state and national legislators on various scientific issues. These retirees may be willing to go before the public and represent their professional societies in spreading the message of the value of basic and applied research and the role of NIH and NSF efforts. There are probably many who have experience speaking before lay audiences. I cannot help but wonder when FASEB and its constitutive societies will realize that they should harness the knowledge and talents of an entire group of very valuable people who could assist the societies and the research establishment in performing these exceedingly important social and political functions. Retirees, by engaging in such activities could help release the strain of time for those educators and investigators currently actively employed at teaching and research institutions.

"My other activities involve daily exercising, going to movies, opera and theater and communicating daily with a large group of people about current social and political issues."

"Other than dealing with the ravages of age, I look forward to what the next 10 years will hold that will make it worthwhile to report."

"Thank you for your interest and for the forum. I wish y'all the very best wishes for the future.

"May you have presidents, governors, and legislatures that are scientifically oriented and who will help you in your future public and scientific endeavors." ❖

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Introduction to the Senses: From Biology to Computer Science

Terry Bossomaier
New York, USA; Cambridge Univ. Press, 2012, 358 pages
60 b/w illustrations, 8 color illust., 12 tables
$ 75.00
ISBN: 978-0521812665

Out of Australia comes this remarkable volume. True to its subtitle, it incorporates biology and information technology, but in addition also an extensive discussion of the mathematical basis of the main topics. The author is a professor at Charles Sturt Univ. in Bathurst, New South Wales, where he is director of the Centre for Research in Complex Systems.

The theme that runs through the entire book is a juxtaposition of the perception of the environment by living and by artificial organisms. The senses of the title include not only sense organs of living creatures, but also of computerized automatons. The concept of animats is introduced at the very beginning of the text. These are said to be "creatures that live in a virtual world," in other words in the programs of computer games.

The introductory chapters include a discussion of Fourier theory that is not for the mathematically challenged reader. Fortunately it is possible to follow almost all of the narrative even if skipping the really hard part. The next chapter (Ch. 4) is a lucid and readable introduction to information theory.

This is followed by chapters devoted to hearing and vision, including an outline of the physics of sound and light and the psychophysics of their perception. Stereoscopic vision and binaural (directional) hearing, together with the perception of movement share a joint chapter, followed by one on texture, and color.

Next, taste and smell share one chapter, followed by one dealing with the somatosensory system. We then leave the human senses for a digression into electrical, infrared and magnetic senses in various animal species. The same chapter includes brief mention of the sonar of dolphins and whales, and echolocation of bats. This chapter concludes with a brief return to the "senses" of computer-born animats.

The last chapter deals with sensory integration. In a concluding sentence the author asks whether man-made systems, with their increasing complexity, will ever acquire some form of consciousness.

The book includes almost 30 pages of references, and a detailed index.

It appears that the author was writing for two kinds of readers, biologists as well as engineers, and to each of these two audiences he intended to explain the point of view of the other. American readers will have to get used to the "old fashioned" British spelling.

In the opinion of this reviewer, this volume could serve well as a text in advanced science courses and, especially, in combined MD-PhD curricula, as well as students and research scientists in bioengineering. ❖

George Somjen
Duke Univ., NC

New Graduate Program in Bioinnovation at Tulane Univ.

The Department of Physiology at Tulane Univ. teamed up with the Department of Biomedical Engineering and other Biomedical and Science Departments to establish a new interdisciplinary graduate program in Bioinnovation at Tulane Univ. This training program is under the direction of the chair of BME, Don Gaver, and is funded by the National Science Foundation (NSF) through the IGERT (Integrative Graduate Education and Research Training) mechanism. The NSF training grant will provide financial support and educational resources to PhD Fellows who will conduct translational research in the Schools of Science & Engineering and Medicine with the goal of developing innovative and cost-effective solutions to complex biomedical problems. Additional programmatic links with the Schools of Business and Law and the FDA will further prepare trainees for careers as leaders at the interface of academia and industry.

If you are interested in participating, please visit: http://tulane.edu/bioinnovation-IGERT/. For additional information and/or please contact Tulane's Bioinnovation Program Manager, Anne-Marie Job at ajacob@tulane.edu. ❖

Postdoctoral Position

The Department of Neurobiology and Anatomy at Wake Forest Medical School announces open positions for Postdoctoral Training in Multisensory Processes: We seek strong candidates for postdoctoral training funded by an NIH T32 Training Grant. The training program provides a rich collaborative research environment that fosters interdisciplinary approaches to understanding how the brain integrates information from multiple senses to produce perception and adaptive behavior. Candidates with direct experience, as well as those in related fields, are encouraged to apply. Trainees will have access to any of 10 laboratories using human subjects and/or a variety of animal models (rodents-primates) with approaches spanning molecular/cellular to perceptual/behavioral. Fellowships are awarded on a competitive basis. Wake Forest School of Medicine is an affirmative action/equal opportunity employer and especially encourages applications from women and minority candidates. Applications including a current curriculum vitae or nominations should be sent to the Training Grant Director: Dr. Barry E. Stein (bestein@wakehealth.edu), or to its Co-Directors Dr. Terrence R. Stanford (stanford@wakehealth.edu) and Dr. Dwayne Godwin (dgodwin@wakehealth.edu). A description of the faculty and the program can be accessed via the website: http://graduate.wfu.edu/admissions/training_ms.html.

Project Leaders

The Griffin Lab is seeking candidates to lead a project on the mechanisms of osteoarthritis pain relief with exercise. This new project is funded by the Arthritis Foundation and focuses on identifying peripheral molecular mechanisms by which exercise improves pain behaviors in mouse models of knee osteoarthritis. The study will involve working with a multi-disciplinary group of collaborators in the Free Radical Biology and Aging Program and the Arthritis and Clinical Immunology Program at the Oklahoma Medical Research Foundation (http://www.omrf.org). The study also involves the use of a force-instrumented running wheel, a new technology developed in our lab to assess clinically relevant pain behaviors in mouse models of musculoskeletal pain. This project integrates well with our lab's interdisciplinary training environment to study how biophysical signals regulate articular joint function via activation/deactivation of oxidative, metabolic and inflammatory pathways. Our lab shares strong collaborations with other labs at OMRF and the Univ. of Oklahoma Health Sciences Center in the areas of metabolism, inflammation, orthopaedics, and neurobiology. The Free Radical Biology and Aging Program is committed to training postdoctoral fellows for scientific career advancement. Candidates seeking a dynamic training environment for career advancement are encouraged to apply. Minimum Qualifications: PhD, MD, or comparable doctoral degree at the time of the appointment. OMRF is an independent, nonprofit biomedical research institute located adjacent to the campus of the Univ. of Oklahoma Health Sciences Center (OUHSC) in Oklahoma City. OMRF ranked 5th among US institutions in *The Scientist* magazine's 2012 listing of "Best Places to Work for Postdoctoral Fellows." Interested persons should send 1) a current CV, 2) a letter of interest describing how this position fits into your research interests and future career plans, and 3) names and contact information of three references via email to: Tim M. Griffin, PhD, Tim-Griffin@omrf.org, CC Postdoc-Recruiting@omrf.org Please indicate "APS Postdoctoral" in your subject heading. OMRF offers competitive salaries and comprehensive benefits. EOE/AA.

Faculty Position

Assistant Professor of Biological Sciences for full-time, tenure-track appointment: *Qualifications:* Applicants must have completed all requirements for a PhD in biological science or related discipline by August 1, 2013, with training or teaching experience in vertebrate physiology. *Responsibilities:* The successful applicant will teach primarily introductory biology, including the majors' and non-majors' sequences, human anatomy and physiology, and develop an upper division vertebrate physiology course. A typical teaching load is 12 credit hours per semester. Additional responsibilities include academic advising, service to the department and the university, and other scholarly activities normally associated with the department. Preference will be given to individuals with demonstrated undergraduate teaching excellence and a clear plan for involving undergraduates in research. *Salary:* Commensurate with qualifications. *The University:* The Univ. of Tennessee at Martin is a primary campus in the Univ. of Tennessee System. The campus is located in Northwest Tennessee approximately 125 miles north of Memphis and 150 miles west of Nashville. The Univ. of Tennessee at Martin has a combined graduate and undergraduate enrollment of approximately 8,100 students. The emphasis is solidly on excellence in teaching, research, and outreach. We seek candidates who demonstrate a similar commitment. Additional information about the Univ. of Tennessee at Martin and the Department of Biological Sciences can be found at http://www.utm.edu/departments/cens/biology/index.php *Application:* Interested persons will need to apply online at http://www.utm.edu/departments/personnel/employment.php and attach a letter of interest, current vita, and statement of teaching philosophy to the online application. In addition to the online application, interested persons will send unofficial college transcripts (official transcripts will be requested for finalist candidates) and arrange for three original, current letters of reference to be sent independently. Transcripts and letters should be sent to: Dr. John Collins, Search Committee Chair, Department of Biological Sciences, 249 Brehm Hall, 574 University Street, The University of Tennessee at Martin, Martin, TN 38238. Incomplete submissions will not be considered. *Closing Date:* The Search Committee will begin evaluating complete applications February 25, 2013, and will continue until a suitable candidate is identified. The Univ. of Tennessee is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA institution in the provision of its education and employment programs and services. All qualified applicants will receive equal consideration for employment without regard to race, color, national origin, religion, sex, pregnancy, marital status, sexual orientation, gender identity, age, physical or mental disability, or covered veteran status. ❖

Wine Wizard

Hi all – writing from the deep freeze (San Diego). I kid you not, it has been in the 30's (F not C) for over a week now overnight and in the morning. I know, a heat wave relative to what some of you endure for weeks, but tough for us wimps. Obviously looking for some robust reds this time to get us through this difficult time.

But first, **Whites** (not many new releases seen this time of year)

2011 Matua Sauvignon Blanc, Marlborough, NZ $8. Is this better than the myriad other NZSB's you can get? No. In fact, there is a touch of sulfur that does quickly blow off. But the price makes this one worth finding. It is very typical of the region – herbal gooseberry and citrus on the nose and palate, moderately high acid and good length.

2010 Gainey Chardonnay, Santa Rita Hills $15. This is a big style chardonnay. The nose is slightly herbaceous, with good apple and tropical fruit aromas and medium vanilla oak. The palate is rich and viscous with very ripe tropical and citrus fruit, and medium oak—but it is not overdone. If you drink whites in winter, this is big enough to do the trick, just don't drink it too cold. Just below normal room temperature—or in our house, right at room temperature.

Peter Wagner

Reds

2010 Trentadue Petite Sirah "LaStoria" $18. We love this wine. Back in the day, this grape produced inky wine that was all wood and tannin and little or no fruit. Undrinkable. Modern PS has evolved, and this is a great example. The tannins are there, but tamed considerably. Dark color remains, but the fruit is excellent – blueberry/black currant nose and palate, some tobacco, some dill (American oak). Very rich and ripe, full bodied, almost sweet due to fruit ripeness, but very tasty, especially on a cold night.

2010 Trentadue Cabernet Sauvignon "LaStoria" Alexander Valley $19. This wine has a nose of dark cherry and earth. The palate is similar with a little mint and a touch of tobacco too. The fruit is very ripe and lush, making it seem on the edge of sweetness. Balance is very good, as is length. It is a fairly big and moderately tannic wine.

2011 Rabbit Ridge red blend "Allure de Robles" $6. Seen (by me at least) only at Trader Joe's, this is ridiculous value. The nose is actually complex – red and dark berry, earth and black pepper, slightly stemmy too. The palate is very forward and bright with lots of dark berry fruit, slight spice, dill, black pepper and oak char. All these are quite secondary to the fruit. Good acid, medium weight and tannin, good length. This should be bought by the case if you can get it.

2009 Tridente Tempranillo "Castilla y Leon", Spain $16. A bit pricy, but if you like Spanish temp. go for it. The nose is soft and a bit closed, but the palate has excellent red cherry fruit, some earth, and very good balance-medium weight, light tannins, good acid, and a very nice mouthfeel.

2010 Milbrandt Cabernet Sauvignon "Traditions" Columbia Valley $13. With a name this long, and a score of 90 in Wine Spectator, you might expect twice the price. The nose has nice dark fruit, vanilla, and spice with a touch of green stems and oak char. The palate is lifted and bright thanks to good acidity and fruit, but varietal with red and dark cherry, spice and vanilla. It is medium in weight, with very nice balance and length.

2008 John Alan Meritage Reserve, Paso Robles $18. This is a classic Bordeaux blend (=Meritage in US) with 50% Cabernet Sauvignon, 20% Cabernet Franc, 10% Malbec, 10% Merlot, 10% Petit Verdot. This is a big but elegant and well-made wine. The nose has lots of dark cherry, spice, anise, and herbal notes. The palate is rich and big and tasty. While quite extracted, the tannins are in check, there is some cumin and anise to go with the forward dark cherry fruit, and the length is excellent.

Enjoy. ❖

Experimental Biology 2013
Boston, MA· April 20-24
APS Career Sessions

Available this summer at the web sites below:

--Presentation audio recordings linked to slides
--Links to *The Physiologist* articles
--Biographies of speakers
--Links to relevant resources

the-aps.org/careersymp

Career Symposium

"Communicating Science to Non-Scientists: Keys to Funding and Visibility"

Tuesday, April 23, 8:00-10:00AM Convention Center, Room 205B

Talks:

New and old techniques to build your network, effectively tell your story, and obtain grant funding
Have a point!!! And a few other suggestions for successfully talking science with non-scientists
The bridge between industry and academic research: a win-win situation
Public policy and career opportunities in physiology

the-aps.org/traineesymp

Trainee Symposium

Translational Research: From Bench to Bedside

Wednesday, April 24, 10:30 AM - 12:30 PM Convention Center, Room 207

Talks:

MD's Perspective on Translational Science Career
Basic Science Researcher's Perspective on Translational Science Career
Defining "Translational Science"
Open forum discussion with early career investigators

the-aps.org/mentorsymp

Mentoring Symposium

The Changing Face of Tenure

Wednesday, April 25, 2:30 - 4:00 PM Convention Center, Room 212

Talks:

What is Tenure?
Tenure: Planning Ahead
Navigating the Tenure Process

2013

April 10-12
Genomic Disorders 2013: From 60 Years of DNA to Human Genomes in the Clinic, Cambridge, UK. *Information:* Jemma Beard. Tel.: +44 (0) 1223 495120; Email: jemma.beard@wtgc.org.

April 16-17
2013 TurnKey Conference, Baltimore, MD. *Information:* Internet: http://www.turnkeyconference.com/.

April 22-23
The 60th International Conference of the Israel Heart Society, Jerusalem, Israel. *Information:* Michal Keinan, 60 Medinat Hayehudim St., Herzliya 46766. Tel.: 972-3-5767738; Email: secretariat@icimeeting.com; Internet: http://www.israelheart.com.

May 6-7
NHLBI Mitochondrial Biology Symposium, Bethesda, MD. *Information:* Internet: http://www.nhlbimitochondrial-biology.com.

May 17-22
2013 American Thoracic Society International Conference, Philadelphia, PA. *Information:* ATS International Conference Department. Tel.: 212-315-8652; Email: conference@thoracic.org; Internet: http://conference.thoracic.org/2013/.

June 22-25
6th International Conference on Children's Bone Heath, Rotterdam, Netherlands. *Information:* Janet Crompton. Tel.: +44 (0)1453 549929; Fax: +44 (0) 1453 548919; Email: iccbh@ectsoc.org; Internet: http://www.iccbh.org.

June 23-28, 2013
The 34th Annual Meeting of International Society for Gravitational Physiology: Gravita-tional Effects from Micro to Macro Biology, Toyohashi, Aichi, Japan. *Information:* ISGP34@sozo.ac.jp; Internet: http://www2.sozo.ac.jp/~ISGP34/.

June 30 to July 3, 2013
24th International Symposium on Pharmaceutical and Biomedical Analysis (PBA 2013), Bologna, Italy. *Information:* http://www.pba2013.org.

July 15-19
10th World Congress on Neurohypophysial Hormones, Bristol, England. *Information:* Internet: http://www.vasopressin.org/#/wcnh-x/4014208.

July 20-23
Cell Senescence in Cancer and Ageing, Cambridge, United Kingdom. *Information:* Internet: https://registration.hinxton.wellcome.ac.uk/display_info.asp?id=342.

July 21-26
37th Congress of the International Union of Physiological Sciences (IUPS 2013), Birming-ham, United Kingdom. *Information:* Internet: http://www.iups2013.org/.

August 17-18
The Gordon Research Seminar (GRS) on Neuroethology: Behavior, Evolution & Neurobiology, Mount Snow Resort, VT. *Information:* Internet: http://tinyurl.com/neuroethology.

September 6-9
45th European Brain and Behaviour Society Meeting, Munich, Germany. *Information:* Internet: http://ebbs2013.com/.

September 29-October 2
Lipids in Cardiac Health and Diesease: From Toxicity to Protection the 11th Annual Meeting of the Society for Heart and Vascular Metabolism, Cambridge, MD. *Information:* Internet: http://heartmetabolism.org/2013/.

October 5-7
The 13th International Congress on Amino Acids, Peptides and Proteins (ICAPP), Galveston, TX. *Information:* Dr. Wu. Email: g-wu@tamu.edu

October 24-27
The 18th World Congress on Controversies in Obstetrics, Gynecology & Infertility (COGI), Vienna, Austria. *Information:* Internet: http://www.congressmed.com/cogi/.

2014

June 24-28
The International 22nd Puijo Symposium "Physical Exercise in Clinical Practise - Critical Appraisal of Randomized Controlled Trials", Kuopio, Finland. *Information:* Email: saila.laaksonen@uef.fi; Internet: http://www.puijosymposium.org.

August 25-29
7th World Congress for Psychotherapy, Durban, South Africa. *Information:* Janie Koeries, Paragon-Conventions, Milnerton Mall, Loxton Road, Milnerton, Cape Town, South Africa. Tel.: 021 552 8679; Email: jkoeries@paragon-conventions.com; Internet: http://www.wcp2014.com.