



# The Physiologist

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Arthur C. Guyton Educator of the Year

## Teacher Quality Matters!!

Stephen E. DiCarlo

Wayne State University School of Medicine

### Standing on the Shoulders of Giants

My graduate mentor, Dr. H. Lowell Stone and my post-doctoral mentor, Dr. Vernon S. Bishop, studied with Dr. Arthur C. Guyton. In fact, Drs. Stone and Bishop studied together with Dr. Guyton from 1961 through 1964. I heard many wonderful stories about Dr. Guyton when Lowell and Vernon got together, especially if their good friend Dr. Aubrey Taylor was around. I also had the great fortune of meeting Dr. Guyton. Thus, I know of his enormous accomplishments directly, as well as from three men who knew him personally. Arthur C. Guyton's research contributions, which include more than 600 papers and 40 books, are legendary and place him among the greatest figures in the history of cardiovascular physiology (7). Although Dr. Guyton's research accomplishments are legendary, his contributions as an educator have probably had an even greater impact on the world (7). Accordingly, I am humbled and honored to receive this prestigious award; named for an amazing man with legendary accomplishments. I have truly stood on the shoulders of giants.



Stephen E. DiCarlo

### An Unbalanced Discussion

The following will not be a balanced discussion of our training/preparation for teaching or how we train our graduate students to become effective teachers; or even its importance in medical education; I will exaggerate a bit. A preacher does not begin a sermon on the evils of alcohol by admitting the comforting effect of a beer after a hard day

at the laboratory (17). So, only the case against our training and preparation for teaching, as well as how we prepare our graduate students to become effective teachers will be presented; the defense will be left to its many able advocates (17). Although, attacks on teachers will be considered treasonable by some, this is more of an attack on our training and preparation for teaching and how we train and prepare our graduate students for teaching, as well as the money monster that controls it. Specifically, although faculty expend huge efforts training and preparing to conduct research, as well as training and preparing their graduate students to conduct research, these same individuals often invest little or no time

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Published bimonthly and distributed by  
The American Physiological Society

9650 Rockville Pike  
Bethesda, Maryland 20814-3991  
ISSN 0031-9376

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**Subscriptions:** Distributed to members as part of their membership. Nonmembers in the USA (print only): individuals \$60.00; institutions \$95.00. Nonmembers in Canada: individuals \$65.00; institutions \$100.00. Nonmembers elsewhere: individuals \$70.00; institutions \$105.00. Single copies and back issues when available, \$20.00 each; single copies and back issues of Abstracts issues when available, \$30.00. Subscribers to *The Physiologist* also receive abstracts of the Conferences of the American Physiological Society. The online version is available free to all worldwide.

The American Physiological Society assumes no responsibility for the statements and opinions advanced by contributors to *The Physiologist*.

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Printed in the USA

Dear Friends:

If you are like most APS members, the inner workings of the Society and the issues that occupy leadership and staff discussion are often obscure to you. APS, of course, continues to put out benchmark journals and organize scientific meetings. But the APS is so much more than that. There are many other issues before APS, and parts of APS, that deserve to be brought to your attention. Through the use of this column, which appears six times per year, I thought I would bring to you some of the other important things going on, and try and give you a better feel for the current APS and why you should be prouder than ever to wear our illegible pin. That pin, by the way, is being redone to incorporate the new APS logo, and it may finally become legible.

The issue today is Strategic Planning (SP). There was a time when I would groan at the mere mention of SP. Give me five minutes in a locked room and I will produce a plan for the next five years, no problem. Why do we need 50+ APS members and staff to sit in the same room for two days and ask each other who do we want to be when we grow up? Well, I am a convert to SP (done right). Just as well, because the

next SP exercise will happen in January 2011 on my watch. Why converted? We all work at warp speed shifting from research to emailing to teaching to emailing to reviewing to emailing to committeeing to emailing to travelling to.....and have become conditioned to never stop and ask whether long-term we are headed the right way as best we can tell. Yet the world is changing around us—ever faster, it seems. Yes, we tend to the minor, urgent fixes, but not to the big picture, until we force ourselves to—via SP. SP begins with a statement of vision: what we want to achieve and where we would like the society to be five years from now. What are our strengths, weaknesses, opportunities and threats (S,W,O,T)? This leads to identifying broad goals, which, if achieved, will make that vision a reality, using the SWOT information. Then the goals must be supported by developing a series of strategies whose execution will achieve them. Finally, each strategy has to be based on a set of very specific implementation tactics.

Especially in the current, unpredictable economy, we just cannot do everything we might wish to, because either we cannot afford it or because we

could lose focus. By trying to be all things to all people, we would actually end up being less to fewer. So what is emphasized and what is set aside gets decided through SP. What works, what doesn't, what may go south if we ignore it, what should we be doing that we are not currently, are all key issues.

A critical part of SP is the initial gathering of information from our membership, and if possible from people in our field who are not, but we think should, be members. In partnership with a SP facilitator, Jill Altshuler of AltshulerGray, we have designed and will soon send you an electronic, easy-to-fill-out, survey hoping to hear your priorities as an APS member, about what you think works and what does not. This will provide the major input to the January SP event mentioned earlier. I urge you to respond to the survey thoughtfully when it arrives. YOUR voice will be heard, and the direction of the society needs to be decided by its members, not by a few folk who run or sit on committees and will get together for two days in January. ♦

*Peter Wagner*  
President

## Call for Nominations

### 2011 Bodil M. Schmidt-Nielsen, Distinguished Mentor and Scientist Award

The Bodil M. Schmidt-Nielsen Distinguished Mentor and Scientist Award honors a member of the American Physiological Society who is judged to have made outstanding contributions to physiological research and demonstrated dedication and commitment to excellence in training of young physiologists whether by mentoring, guiding and nurturing their professional and personal development, developing novel education methods/materials, promoting scientific outreach efforts, attracting individuals to the field of physiology, or by otherwise fostering an environment exceptionally conducive to education in physiology.

The award was established to recognize Dr. Bodil M. Schmidt-Nielsen, the first woman President of the Society and a distinguished physiologist who has made significant contributions in her field. The award of \$1,000 and a commemorative plaque will be presented at the annual EB meeting where the awardee will meet with APS members and young scientists and give a talk on

mentoring. The awardee will also write up the talk for publication on the web and/or in *The Physiologist* and will receive reimbursement of expenses incurred in association with the delivery of the talk at the EB meeting. The first award was made at EB 2004.

Nominations can be submitted to the Women in Physiology Committee by any member of the APS. The nomination should include the following:

1. A letter stating the basis for nomination with a synopsis of the nominee's scientific contributions and mentoring skills and evidence related to the criteria, such as: assisting students with research funding or job placement; success of graduates; publications and presentations of graduate students; providing psychological support, encouragement, and essential strategies for life in the scholarly community; continued interest in the individual's professional advancement; participation in graduate education activities; successful role model; teaching awards; descriptions of innovative teaching methods, etc.

2. A list of current and former trainees, training dates, and their current positions and any awards they received.

3. Support letters - successful nominations usually contain 8-10 letters. No more than three letters can be from colleagues, with the remainder from current or former trainees. Trainee letters should be from a variety of institutions that are different from that of the nominee. No more than 10 letters can be submitted.

4. Nominee's current curriculum vitae, including current and past grant support information. The nomination packet should be submitted by the nominator.

Nominations are due by September 15. All nominations must be submitted online at <http://www.the-aps.org/awards-dapps>. For more information, see <http://www.the-aps.org/awards/society/schmidt-nielsen.htm>. For question and recommendations of competitive nomination packet contents, contact Melinda Lowy, APS Education Office at [mlowy@the-aps.org](mailto:mlowy@the-aps.org) or 301-634-7787. Applications are due by September 15.



learning how to teach effectively or train their graduate students to be effective teachers. This, in my opinion, is terrible for our profession, our students and ultimately us because teacher quality matters!! In fact, teacher quality is the most important school-related factor influencing student achievement (6). Importantly, teacher quality requires training and preparation because most teachers, like most scientists, are made (not born) as a result of training, preparation and hard work.

*“Importantly, teacher quality requires training and preparation because most teachers, like most scientists, are made (not born) as a result of training, preparation and hard work.”*

## Content is Not Enough!

The training, preparation, and hard work will require faculty members to obtain content knowledge, pedagogical knowledge, and knowledge of the learner and his/her characteristics to be effective teachers (14). Most university faculty members have detailed content knowledge as a result of reading and studying avidly within their academic disciplines. However, few seem to have pedagogical knowledge and being an effective teacher requires more than knowing one's own discipline; it also requires understanding how people learn; because how we teach (process) is more important than what we teach (content) (2). Thus, content is not enough! It seems that few faculty members read classic or contemporary literature on teaching and learning while even fewer attend courses and workshops on pedagogy. I realize the fact that you are reading this article disproves my point (in effect, I am preaching to the choir), but remember, this will not be a balanced discussion! Furthermore, faculty often neglect to obtain knowledge of the learner and his/her characteristics and do not acknowledge the importance of this vastly underutilized approach to improving classroom instruction (14). For example, when you think about your subject, and the teaching of that subject, do you attempt to see things from the students' perspective (11)? Do you consider where your students

came from in terms of academic journey, previous and future courses? Do you acknowledge that life today is more complicated than when we were students? Do you attempt to motivate, to inspire and engage your students? These questions may never have entered our consciousness. However, there are many attitudes, beliefs and characteristics that students bring to the classroom, and we must deal with all of these human factors if we want our students to learn. It is important that students develop an interest and

love for lifelong learning (5; 10). Inspiring and motivating students is critical because unless students are inspired and motivated our efforts are pointless. Once students are inspired and motivated, there are countless resources available to learn more about a subject (4). Accordingly, becoming an effective teacher also requires an understanding of student attitudes, beliefs and characteristics. This requires a profound motivation and focus on understanding the learner.

However, few of us seem to make the effort required to obtain pedagogical knowledge, and it seems that even fewer of us make the effort required to obtain knowledge of the learner and his/her characteristics. This is in sharp contrast to the way we train and prepare to conduct our research. We would never consider conducting a study without an extensive knowledge of the literature as well as an understanding of the most appropriate and innovative methods. We would never complete a study without an extensive evaluation of the procedures and results. Why not apply these same skills/expertise in research to our teaching endeavors? The logical answer is that we can and, therefore, we should apply our research expertise to becoming effective teachers and educational scholars! The questions become; how and where do we obtain pedagogical knowledge as well as knowledge of the learner and his/her characteristics?

## Teaching without Thinking is Just Talking!

I would like to continue this unbalanced discussion by telling one of my favorite stories. The new husband was making his first big dinner for his wife and tries his hand at his mother's famous brisket recipe, cutting off the ends of the roast the way his mother always did. The new wife thinks the meat is delicious, but says, "Why do you cut off the ends— that's the best part!" He answers, "That's the way my mother always made it."

The next week the newlyweds visit the husband's mother and she prepares the famous brisket recipe, again cutting off the ends. The young husband is sure he must be missing some vital information, so he asks his mother why she cut off the ends. She answers, "That's the way my mother always made it."

The following week the newlyweds visit the husband's grandmother and she prepares her famous brisket recipe, again cutting off the ends. The newlyweds are sure they must be missing some vital information, so they ask the grandmother why she cut off the ends. Grandma says, "That's the only way it will fit in the pan."

Two generations have slavishly followed the tradition without understanding it! In a similar manner, multiple generations of educators have taught the way they were taught, slavishly following tradition, without understanding the research or reason behind their methods. That is, plodding forward without thinking about or understanding the body of research on pedagogy; without thinking about or acknowledging that teaching and learning has a solid theoretical and research bases; without thinking about teaching, without thinking about learning; without thinking about education; without thinking about process. Unfortunately, teaching without thinking is just talking!

## The Autonomic Teaching System

If Rip Van Winkle were to awaken today, he would be amazed by all that he could see: cell phones, computers, the world wide web...but when he walks into a classroom, he will know exactly where he is: "Ahhh, this is a classroom," he would say, "we had these, only now the blackboards are white" (4).



This concept was documented by Silverthorn and colleagues (13) in an outstanding article published in *Advances in Physiology Education*. The authors documented how difficult it is for us to change the way we teach. Specifically, the authors documented that despite giving dedicated teachers the active learning modules and instructions on how to use them, the vast majority of teachers **reflexly** reverted back to teaching the way they always have; **autonomically** transferring information from the notes of one person to the notes of another person without going through the minds of either person. That is, transferring knowledge to students through lectures and note taking without processing above the brainstem; without thinking about the process. Once again, teaching without thinking is just talking! Importantly, careful measurements of what students are learning with this method documents that the traditional autonomic methods of teaching science are simply wrong; they do not work (12)! Just because someone told me or because it has been done this way for hundreds of years does not mean that it is the right way to teach science. A scientific approach to teaching science must become the standard. There are guiding principles and models about how people think and learn that should be followed. As scientists, we must use data to direct our teaching and learning procedures, not tradition and anecdotes.

This is important since failing to teach effectively is failing our profession, our students and us, because as stated above, teacher quality matters. In fact, teacher quality is the most important school-related factor influencing student achievement. However, most of us who teach were hired not because of our ability to teach effectively but because of our expertise in research (16). In fact, few if any of us had formal training in education. That's right; many of us were hired at major universities without any formal training in education. Think about that!! This is despite the fact that teaching is no less important or difficult than research and, therefore, requires the same level of preparedness. Despite our lack of formal training in education, the quality and breadth of our teaching, even more than our research, will have a major impact on individual lives (16).

Therefore, we must approach our teaching with the same seriousness and effort we devote to our research (8; 9). Since we interact with several hundred students a year, nothing we will ever do in the research lab is as likely to impact on so many lives (8; 16).

## The Teaching Profession Challenged

If we teach the way we were taught, we would autonomically transfer information from the notes of one person to the notes of another person without going through the minds of either person. That is, transferring knowledge to students through lectures and note taking without processing above the brainstem; without thinking about process, our graduate students will also teach this way. Thus, one of our greatest challenges is to train graduate students to be effective teachers and educational scholars; to give them the confidence, knowledge, and motivation to teach physiology (16). However, few of us work with our graduate students to become effective teachers and educational scholars. In fact, although we expend great effort training and preparing our graduate students to conduct research, teaching, a no-less important or difficult activity, receives little attention and no special training (16).

Therefore, we must recognize the importance of training our graduate students to become effective teachers, as well as educational scholars, and enhance the effectiveness of their teaching. This is critical because administrators are questioning the economic wisdom of employing departments of faculty to simply lecture to students. Why not, they ask, simply capture the very best lectures from all over the world on streaming video and present the same material to all students? In this context, all students would receive the same, extremely high quality of education.

The concern here is with the future of teaching as a profession. Can teachers be replaced by streaming video? The future of teaching as a profession may depend, in part, on how well we prepare our graduate students to become effective teachers and educational scholars. Shall our graduate students become autonomic teachers, reflexively repeating obsolete methods or shall our graduate students become professionals, educational scholars

with scientifically proven, innovative methods to improve teaching and learning?

There should be no difference between the way we train our graduate students to conduct research and the way we train our graduate students to become effective teachers and educational scholars. Graduate students must put the same careful, logical thought into teaching as they do their research (8; 9). Specifically, faculty must work directly with graduate students in all aspects of the training experience from preparing the syllabus, preparing for the class, conducting the class, evaluating the effectiveness of the class, preparing and administering the exams and analyzing the effectiveness of the efforts. In addition, faculty must work with graduate students in learning the literature. This involves reviewing selected manuscripts on theoretical background, as well as practical techniques. We must carefully and critically analyze the literature to obtain a complete understanding of the issues important to our class experience. There is a body of research on pedagogy. Teaching and learning has a solid theoretical and research bases. Graduate students must dig into this body of literature and begin thinking about education (8; 9).

Graduate students must also take advantage of other training opportunities. For example, graduate students must attend special workshops and seminars related to teaching and learning as well as conduct educational research on the effectiveness of their teaching strategies and on how students learn.

## Research or Retrench

Teaching cannot claim or hold professional status without a science base to support existing practices. Therefore, we must investigate how students learn and document the effectiveness or failures of our methods. Specifically, we must generate scientific documentation, established by experimental research, supporting specific teaching strategies (1; 3). Shall we be technicians or shall we be professionals with a scientific basis to our work (1; 3)? Can we perform research that will directly improve teaching and learning? Can we document the effectiveness of our strategies by professional-level research, or are we doomed to being

second-class citizens in the academic community? Both great needs and great possibilities exist for research in teaching and learning. The challenge is awesome, even with its usually accepted limits. However, unless major efforts are made in educational research, students are doomed to learning with strategies where the science behind them is not as strong as the faith, and students and teachers will fall short of their potential.

Therefore, I challenge our colleagues to conduct research on the effectiveness of our teaching strategies. Without a scientific knowledge base, teaching cannot claim and hold professional status, especially if our techniques are useless or obsolete. Furthermore, no discipline can defend itself effectively against skepticism unless its procedures are based on scientific proof established by experimental research (1).

## The Money Monster

Many educators have concerns because the necessary support and recognition for innovative teaching and educational scholarship are lacking from colleagues and administrators. In many universities, promotion, tenure and hiring are based on research productivity (often defined as grant dollars) rather than teaching scholarship, expertise or innovation. Thus, faculty may conclude that teaching is the price we pay in order to do our research; and ask "why devote precious time that could be used for research on undervalued innovative teaching or educational scholarship." If this thought enters your head simply think of Dr. Guyton. Arthur C. Guyton did not undervalue teaching and he would never accept an invitation to give a prestigious lecture if it conflicted with his teaching schedule (7).

In addition, to further address these concerns, the faculty must work together to put pressure on the administration to recognize the importance of the teaching mission, to provide the support to achieve the mission and to grant rewards for successful completion of this mission. Specifically, the faculty must convince the administration to convert from a primary emphasis on research dollars to also consider teaching effectiveness and innovation as well as educational scholarship as important factors in its promotion, tenure, and hiring policies. Specifically,

policies regarding promotion, tenure and hiring must be based on what is best for student learning and not solely on economic considerations.

## Conclusion

I fear that this unbalanced discussion, attacking our preparation for teaching, as well as how we prepare our graduate students for teaching, may have seemed too harsh. However, rather than feeling discouraged I hope we feel challenged; challenged to do better; challenged to change our ways; challenged to live up to the standards set by Arthur C. Guyton (7)! Dr. Guyton was an inspiring role model and dedicated master teacher at the Univ. of Mississippi for over 50 years (7). We must follow his role and prepare ourselves and our graduate students for the challenges of teaching or be prepared for teaching to fail as a respected profession. Already many of our research colleagues show little respect for our efforts or for the science of teaching.

Remember how important we are as teachers. The impact of our teaching will extend long beyond our lifetime because a small part of every teacher is in the students we touch (4). Teaching is the unique and central mission of institutions of higher learning. Teaching is not just an addendum to research. It is not an obligation that comes along with the job. What kills a subject is the lack of good teaching, the inability to communicate whatever once gave it vitality (15; 16). Therefore, we must prepare ourselves and our graduate students to meet this incredible challenge. We must train ourselves and our graduate students to become effective teachers and educational scholars because nothing we will ever do in the research lab is as likely to impact on so many lives. As an example, although Dr. Guyton's research accomplishments are legendary, and place him among the greatest figures in the history of cardiovascular physiology, his contributions as an educator have probably had an even greater impact on the world (7).

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## New Regular Members

### \*transferred from Student Membership

- |   |   |  |
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| <b>Richard T. Clements</b><br>Rhode Island Hosp.                    | <b>W. David Knight</b><br>Univ. of North TX HSC, Fort Worth       | <b>Trichur R. Raju</b><br>Nat'l Inst. Mental Hlth/Neurosci., India   |
| <b>Nathan P. Cramer*</b><br>Uniformed Serv. Univ. Health Scis., MD  | <b>Yunsuk Koh*</b><br>Lamar Univ., TX                             | <b>Mark Rakobowchuk*</b><br>Univ. of Leeds, UK                       |
| <b>Geeta Datta</b><br>Univ. of Alabama, Birmingham                  | <b>Anjaneyulu Kowluru</b><br>Wayne State Univ., MI                | <b>Florian Rieder</b><br>Cleveland Clinic Foundation, OH             |
| <b>Stephane Delliaux</b><br>Univ. De La Mediterranee, France        | <b>Amrita Kumar</b><br>Emory Univ., GA                            | <b>Renaud Ronsse</b><br>Ecole Polytech. Féd De Lausanne, Switzerland |
| <b>Ana Diez-Sampedro</b><br>Univ. of Miami, FL                      | <b>Simon Lamarre</b><br>Memorial Univ., St. John's, Canada        | <b>Suzana Savkovic</b><br>Northshore Univ., IL                       |
| <b>Dmitry Diyskov</b><br>Penn State Coll. Med., Hershey, PA         | <b>Michael Shihli Lan</b><br>Res. Inst. For Children's Hosp., LA  | <b>Trevor M Shackelton</b><br>MRC Inst. Hearing Res., UK             |
| <b>Marcin Dobaczewski</b><br>Baylor Coll. Med., TX                  | <b>Ravinder K. Mittal</b><br>San Diego VA, CA                     | <b>Qaiser Shafiq</b><br>Univ. of Toledo Med. Ctr., OH                |
| <b>Joachim Fandrey</b><br>Univ. Duisburg-Essen, Germany             | <b>Wolfgang Langhans</b><br>ETH Zurich, Switzerland               | <b>Naveen Sharma</b><br>Univ. of Michigan                            |
| <b>Xiang Ping Fang*</b><br>Univ. De Cardiologie, QC, Canada         | <b>Seungjun Lee</b><br>Georgia Inst. Tech.                        | <b>Amanda Lea Sharpe</b><br>Univ. of Texas, San Antonio, TX          |
| <b>Andrew P. Feranchak</b><br>Univ. of Texas Southwestern Med. Sch. | <b>Michel Lemay</b><br>Drexel Univ., PA                           | <b>Athar H. Siddiqui</b><br>Univ. of Texas, Houston                  |
| <b>Elisabeth Glowatzki</b><br>Johns Hopkins Univ. Sch. Med., MD     | <b>Ifat Levy</b><br>Yale Univ., CT                                | <b>Attila Sik</b><br>Univ. of Birmingham, UK                         |
| <b>Diego A. Golombek</b><br>Univ. Nacional De Quilmes, Argentina    | <b>Baowang Li</b><br>Univ. of California, Berkeley                | <b>Thomas Similowski</b><br>Univ. of Paris, Marie Curie, France      |
| <b>Fan Gong</b><br>Univ. of Pittsburgh, PA                          | <b>Miao Lin</b><br>Brigham & Women's Hosp., Boston, MA            | <b>Srinivas D. Sithu</b><br>Univ. of Louisville, KY                  |
| <b>Anisha Gupte</b><br>Methodist Hosp., Huston, TX                  | <b>Pedro Lopez</b><br>Med. Sch., Nat'l Polytech. Inst., Mexico    | <b>Ali Alizadeh Sovari</b><br>Univ. of Illinois, Chicago             |
| <b>Yoram Gutfreund</b><br>The Texhion/Israel Inst. Tech.            | <b>George Lotocki</b><br>Ross Univ., South Miami, FL              | <b>William Spain</b><br>Univ. of Washington, Seattle                 |
| <b>Daniel A. Hahn</b><br>Univ. of Florida                           | <b>Satohiro Masuda</b><br>Kyoto Univ. Hosp., Japan                | <b>Tripti K. Srivastava</b><br>Datta Meghe Inst. Med. Scis., India   |
| <b>Hatim Ali Hassan</b><br>Univ. of Chicago, IL                     | <b>Geoffrey McLennan</b><br>Univ. of Iowa                         | <b>Julian Stelzer</b><br>Case Western Reserve Univ., OH              |
| <b>Walter Herzog</b><br>Univ. of Calgary, Canada                    | <b>Bryan J. McVerry</b><br>Univ. of Pittsburgh, PA                | <b>Jonathon H. Stillman</b><br>San Francisco State Univ., CA         |
| <b>Makoto Hirano</b><br>Tokai Univ., Kanagawa, Japan                | <b>Jason Cornick Mills</b><br>Washington Univ., MO                | <b>Sandeep B. Subramanya</b><br>Univ. of CA Irvine/VA Med. Ctr.      |
| <b>Doyle Holbird</b><br>Bethany Lutheran College, MN                | <b>Kensaku Mori</b><br>Univ. of Tokyo, Japan                      | <b>Daisuke Sugiyama</b><br>Kyushu Univ., Japan                       |
| <b>Chih-Chin Hsu</b><br>Chang Gung Mem. Hosp., Taiwan               | <b>Susanne M. Morton</b><br>Univ. of Iowa                         | <b>Chris Sullivan</b><br>AT Still Univ., AZ                          |
| <b>Wenhui Hu</b><br>Temple Univ., PA                                | <b>Vihang A. Narkar</b><br>Univ. of Texas, Houston                |  |



## Qifei Sun

Colorado State Univ.

## Xing-Guo Sun

LA Biomed. Res. Inst.,  
UCLA Med Ctr., CA

## Douglas M. Swank\*

Rensselaer Polytechnic Inst., NY

## Fumihiko Tajima

Wakayama Univ. Sch. Med., Japan

## Tiffany Lynnette Thai

Emory Univ., GA

## Joseph T. Thompson

Franklin & Marshall College, PA

## Elena Torban

McGill Univ., Montreal, Canada

## Theodore Francis Towse

Vanderbilt Univ., TN

## Edward Vigmond

Univ. of Calgary, AB, Canada

## Hanjun Wang

Univ. of Nebraska Med. Ctr.

## Wang Wang\*

Univ. of Washington

## Ling Wang

Univ. of Pittsburgh, PA

## Kangmee Woo

Univ. of Texas SW Med. Branch

## Susan Kathleen Wood

Children's Hosp., Philadelphia, PA

## Baoshan Xu

Louisiana State Univ. Hlth Sci. Ctr.

## Qihe Xu

King's College of London, UK

## Junwei Yang

Nanjing Medical Univ., China

## Brent A. Yugt

SUNY-Upstate Med. Univ., NY

## Mirjam Zegers

Univ. of Chicago, IL

## Zhenghao Zhang\*

New York Downtown Hosp.

## Youwen Zhang

Univ. of Alabama

## Guangfan Zhang

Univ. of Kentucky

## Zhanxiang Zhou

Univ. of Louisville, KY

## New Student Members

### Olayemi Adeoye

Loma Linda Univ., CA

### Eric Bombardier

Univ. of Waterloo, Canada

### Matthew Cook

Univ. of Central Missouri

### Robert Hyldahl

Univ. of Massachusetts, Amherst

### Luis Isea

Univ. of Central Venezuela

### Jeffrey Kroetsch

Univ. of Toronto, Canada

### Elise Lavoie

Université Laval, Canada

### Pooja Mujumdar

Loma Linda Univ., CA

### Colleen Munoz

CA State Univ., Fullerton

### Nikhil "Sunny" Patel

Univ. of California, Los Angeles

### Yuvraj Verma

RNT Medical Coll., India

### Rachael Weese

Univ. of Michigan

### Chang Xiao

Univ. of Cincinnati, OH

## New Affiliate Members

### Craig Knoche

PhysioSIM, California

### Chinmay Manohar

Mayo Clinic, MN

### Virginia Ann Pascoe

Mt. San Antonio College, CA

### Jamie Tedeschi

Foothills Science Ctr., AZ

## New Graduate Student Members

### Atallah Mahmud Abbas

The Hebrew Univ. of Jerusalem

### Davies Gyamei Agyekum

Medical College of Georgia

### Katelyn Anglin

Univ. of Louisville, KY

### Gerald Audet

West Virginia Univ.

### Juan Pablo Arroyo

Inst. Nat'l. De Nutricion, Mexico

### Kathleen Beehner

Medical College of Wisconsin

### Timothy J. Bradshaw

Univ. of Kentucky

### Surapong Chatpun

Univ. of California, San Diego

### Eunice Chin

Trent Univ., Canada

### Sean Courtney

Texas A&M Univ.

### Tara Croston

West Virginia Univ.

### Claire Barbier De La Serre

Univ. of California, Davis

### Cynthia J. Downs

Univ. of Nevada, Reno

### Morten Engelund

Univ. of Southern California

### Melinda Engevik

Univ. of Cincinnati, OH

### Gary C. Gaines

East Carolina Univ.

### Michelle Harrison

Univ. of Texas, Austin

### Yan Huang

Univ. of Wyoming

### Alexander G. Jackson

Univ. of California, Irvine

### Tess Killpack

Univ. of Wisconsin, Madison

### Sarah Kuzmiak

Arizona State Univ.

### Monica McCullough

Western Michigan Univ.

### Heidi Medford

Washington State Univ.

### Olugbenga Michael

Univ. of Ilorin, Nigeria

### Marie Nearing

Univ. of Arizona

### Mien Thi Xuan Nguyen

Univ. of Southern California

### Kristin Louise Parkhurst

Univ. of Texas, Austin

### Kevin Rarick

Univ. of Iowa

### Thasi Porto Ribeiro

Federal Univ. of Paraiba, Brazil

### Johanna Salomon

Trinity College, Dublin, Ireland

### Elena Schwagerus

Trinity College, Dublin, Ireland

### Tabatha Lynn Settle

West Virginia Univ.

### Kathryn Spitler

Medical College of Georgia

### Kristi Ann Strey

Univ. of Wisconsin, Madison

### Loc Vinh Thang

Michigan State Univ.

### Xu Yan

Univ. of Wyoming

### Margaret Zimmerman

Minnesota State Univ.

## 2009 ISI Impact Factors for APS Journals

Thomson Reuters/ISI has released its 2009 Science Edition of the Journal Citation Reports, which gives journal Impact Factors and rankings of approximately 8,000 science journals. The 2009 Impact Factors of the journals of the APS, along with a comparison of the

past 3 years, are given in the table below. The table also shows the rank of APS journals in the physiology category, as well as each journal's cited half-life.

The 2009 Journal Citation Reports includes an update to the Five-Year Impact Factor and *Eigenfactor*<sup>TM</sup>

Metrics in JCR Web. *Eigenfactor*<sup>TM</sup> Metrics use citing journal data from the entire JCR file. The *Eigenfactor*<sup>TM</sup> score and the *Article Influence*<sup>TM</sup> score are calculated based on the citations received over a five-year period. ❖

Table 1. 2009 ISI Impact Factors for APS Journals.

Journal	ISI Impact Factor Data							Eigenfactor <sup>TM</sup> Metrics	
	2006	2007	2008	2009	5-Year Impact Factor	2009 Cited Half-Life	2009 Rank Among Physiology Journals	2009 Eigenfactor <sup>TM</sup> Score	2009 Article Influence <sup>TM</sup> Score
<i>Phys. Reviews</i>	31.441	29.600	35.000	37.726	37.838	8.3	1	0.05731	15.879
<i>Physiology</i>	6.268	6.954	7.159	6.945	8.128	3.6	3	0.01309	3.354
<i>AJP-Cell</i>	4.334	4.230	4.230	4.395	4.395	7.3	9	0.05424	1.553
<i>AJP-Lung</i>	4.250	4.214	3.924	4.043	4.157	6.3	12	0.03998	1.373
<i>AJP-Renal</i>	4.199	4.416	3.890	4.013	4.128	7.0	13	0.05379	1.502
<i>AJP-Endo</i>	4.123	4.138	3.855	3.931	3.787	4.5	15	0.02053	1.369
<i>J. of Applied Phys.</i>	3.178	3.632	3.658	3.732	3.833	>10.0	17	0.06335	1.152
<i>J. of Neurophys.</i>	3.652	3.684	3.648	3.731	3.916	6.3	18	0.04692	1.338
<i>AJP-Heart</i>	3.724	3.973	3.643	3.712	3.747	6.7	19	0.08796	1.230
<i>AJP-GI</i>	3.681	3.761	3.587	3.483	3.872	9.4	22	0.11302	1.685
<i>Phys. Genomics</i>	3.789	3.493	3.436	3.258	3.576	7.4	23	0.03631	1.153
<i>AJP-Regu</i>	3.685	3.661	3.272	3.058	3.363	7.4	28	0.04854	1.087
<i>Advances</i>	1.260	0.984	1.483	1.542	1.818 <sup>*</sup>	4.9	53	0.00146	0.388

## CALL FOR NOMINATIONS

### For the Editorship of the *Journal of Applied Physiology*

Nominations are invited for the Editorship of the *Journal of Applied Physiology* to succeed J. Dempsey, who will complete his term as Editor on June 30, 2011. The Publications Committee plans to interview candidates in the Fall of 2010.

Applications should be received before **August 15, 2010**.

Nominations, accompanied by a curriculum vitae, should be sent to the Chair of the Publications Committee:

Kim E. Barrett, Ph.D.  
American Physiological Society  
9650 Rockville Pike  
Bethesda, MD 20814-3991

## Introducing William C. Stanley

Effective January 1, 2011, William C. Stanley will be the new editor for *American Journal of Physiology--Heart and Circulatory Physiology*. Stanley is Professor of Medicine and Physiology at the Univ. of Maryland School of Medicine in Baltimore. He is a native of northern California and attended undergraduate and graduate school at the Univ. of California, Berkeley. He received his PhD in exercise physiology under the mentorship of George Brooks in 1986 and performed studies on lactate kinetic in human skeletal and cardiac muscle. He did a postdoctoral fellowship at the Cardiovascular Research Institute at the Univ. of California, San Francisco, where he received training in cardiac physiology and myocardial metabolism and performed translational studies in humans and large animal model. In 1989, he joined the faculty of the University of Wisconsin and initiated studies addressing the interregulation of carbohydrate and fat metabolism in normal and diabetic myocardium. In 1992, he left academic research and worked in the pharmaceutical industry



William C. Stanley

in Palo Alto, CA, on drug discovery and development, specifically on novel treatments for heart failure and ischemic heart disease. In 1996, he returned to academics, joining the Department of Physiology and Biophysics at Case Western Reserve Univ., where he established a research program focused on integrative

approaches to metabolic dysfunction in heart failure and myocardial ischemia. In 2007, he moved to his present position in the Division of Cardiology at the Univ. of Maryland.

Stanley has broad experience in integrative cardiovascular physiology and has worked with a wide array of experimental systems and approaches, including isolated mitochondria, rodents, large animals, and humans. He has over 180 publications and has published extensively in the journals of the APS (44 papers and counting!). He has served as *Associate Editor of American Journal of Physiology--Heart and Circulatory Physiology* since 2005. His laboratory has been supported by grants from the American Heart Association and the National Institutes of Health, and he has been active as a study section member in both organizations. Stanley is the founder and past president of the Society for Heart and Vascular Metabolism and is an active promoter of the field of cardiac metabolism and energetics by organizing national and international symposia and conferences. ❖

## Education

### APS Represented at HAPS Annual Conference



Susan M. Barman

APS was pleased to sponsor member Susan M. Barman from Michigan State Univ. as a guest speaker at the 2010 Human Anatomy and Physiology Society (HAPS) annual conference. Her well-

attended talk, "What can we learn about control of the cardiovascular system by studying rhythms in sympathetic nerve discharge?" provided exceptional insight into how the brain controls blood pressure.

APS was also strongly represented by Dee Silverthorn from the Univ. of Texas at Austin and Robert Carroll from East Carolina Univ. In addition to working with APS staff member Miranda Byse at the APS exhibit table, both members contributed significantly to the success of the HAPS conference

and the HAPS Institute (HAPS-I) courses held in conjunction with the annual conference.

The HAPS conference, aptly titled "Rocky Mountain Inspiration," was held May 29th through June 3rd in Denver, CO. Over 350 undergraduate anatomy and physiology educators met to discuss topics ranging from forensic anthropology to neurosurgery. Next year's HAPS conference will be held over the Memorial Day weekend in Victoria, B.C. ❖



## APS Presents Awards to Outstanding High School Students at the 61st Annual International Science and Engineering Fair

The 61st Annual Intel International Science and Engineering Fair (ISEF), presented by Intel Corporation, was held in San Jose, CA, May 9-14, 2010. More than 1,600 students from 60 countries, regions, and territories competed in the world's largest pre-college science competition awards. During the two days of awards ceremonies, more than \$4 million in scholarships, cash prizes, and awards were distributed in categories ranging from behavioral science to engineering and medicine. More than 500 Intel ISEF participants received scholarships and prizes for their work. Prizes included scholarships, cash awards, scientific field trips to foreign countries and the grand prizes: a \$75,000 award (Gordon E. Moore Award) and two \$50,000 scholarships from Intel. Grand awards included 19 "Best of Category" winners who each received an \$8,000 Intel scholarship and \$1,000 to their schools and affiliated fairs. More than 600 additional awards were presented by scientific, professional and educational organizations and include scholarships, summer internships, book and equipment grants, and scientific field trips.

For the 18th year, the APS presented four Special Awards in the form of cash prizes, certificates and student subscriptions for the best projects in the physiological sciences. This year's APS judging team included Mark Knuepfer from St. Louis Univ. and Erin Keen-Rhinehart of Susquehanna Univ. We received help with the final judging

from local members with appointments at Stanford Univ., including Anne Friedlander, Carlos Milla, Mrinmoy Sanyal, and Clyde Wilson. Their assistance was greatly appreciated.

The convention center was packed with posters displaying projects ranging from physiological based research done at home or at universities, to complex robotics complete with computer driven controls. Students spent two days being interviewed by judges representing a variety of disciplines, and participated in a panel discussion featuring several Nobel Laureates. As judges, we previewed almost 70 projects to select 18 that best fit the category of "physiology." We interviewed each of these finalists to evaluate their involvement in the project and to determine their understanding of the science and experimental design behind the project. After two days of judging, we chose the following projects to receive APS awards for excellence in physiological research.

Receiving \$1,500 and the APS first place Special Award was Alyssa Chelsea Ehrlich, 18, a senior at South Side High School in Rockville Center, NY for her project entitled "Effects of Starvation on Wild Type and Adipose60 Mutant *Drosophila melanogaster*." Alyssa demonstrated tremendous initiative and perseverance in completing her project. Alyssa also won a first place Grand Award in the Animal Sciences section for \$1,500 and two Special Awards, one from the Air Force Research Laboratory for \$3,000 and

another from the Endocrine Society for \$1,000.

Second place and a \$1,000 APS Special Award went to Matthew A. Nugent, a junior at Oregon Episcopal School, Portland, OR for his project entitled, "The Effects of Epoxyeicosatrienoic Acids and Their Metabolites on Myocardial Function and Perfusion during Acute Myocardial Ischemia." Matthew also won a Grand Award for fourth place in the Medical and Health Sciences section for \$500 and two Special Awards, one from the United States Army for a \$1,000 U.S. Savings Bond and another as a third place award for \$500 from the American Association for Clinical Chemistry.

Alexis Eleni Tchaconas, a senior at Commack High School, Commack, NY was awarded one of the two APS third place Special Awards (\$500) for her project entitled, "A Genetic Investigation of Autism: The Role of Type II Neuroregulin-1/ErbB4 Signaling and Contactin4 Expression in Neurodevelopment." Alexis also won a Grand Award for \$500 in the Cellular and Molecular Biology section, and a Special Award from the United States Navy and Marine Corps for a tuition scholarship in amount of \$8,000.

The APS third place Special Award was also presented to Charles David Morris, a senior at Breck School in Golden Valley, MN for his project entitled "Role of PKC $\alpha$  in Carrageenan-induced Inflammatory Pain Response."

The APS Special Award winners also received a certificate, a t-shirt, and a one-year subscription to APS publications.

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

Mark M. Knuepfer  
St. Louis Univ. School of Medicine  
APS Education Committee



The winners of the APS Special Awards at the 2010 Intel ISEF. Pictured from left to right are Alexis Eleni Tchaconas, Charles David Morris, Matthew A. Nugent, Alyssa Chelsea Ehrlich.

## APS Presents Awards for the Best Physiology Project at Local Middle and High School Science Fairs

APS members continue to judge and present Science Fair Awards on behalf of the APS at local and regional science fairs for pre-college students across the nation. The student selected to have the best physiology-related project receives an APS t-shirt, an APS researcher pin, and a certificate. The student's teacher receives the APS "Women Life Scientists" book and a K-12 resource packet.

Any APS member who participates as a judge in a local or regional science fair at an elementary, middle, or high school is eligible to apply and receive an APS award packet. For more information, visit: <http://www.the-aps.org/education/sciencefair/index.htm> or contact Scarletta Whitsett (swhitsett@the-aps.org) in the APS Education Office.

Maria Rangel, a junior at Weslaco East High School in Weslaco, TX, received an APS award for the best physiology project at the school's sScience Ffair. APS member Lila LaGrange of the University of the Incarnate Word was the judge who presented the award. The title of Maria's project is "Neuro-Regeneration: Embryonic Factors Promote Adult Axon Regrowth in a Gastropod Model."

Sydney Hudson, an eighth grader at Pendleton County Middle School in Franklin, WV, received an APS award for the best physiology project at the Eastern Regional Science Fair. APS member Shawn Stover of Davis & Elkins College was the judge who pre-

sented the award. The title of Sydney's project is "Dominance of the Hand and Brain." The teachers and sponsors were Heather Adams and Sandra Simmons.

Mara McCloud, an eighth grader at Willow Creek in Poland, OH received an APS award for the best physiology project at the Lake-to-River Science Day. APS member Johanna Krontiris-Litowitz of Youngstown State University was the judge who presented the award. The title of Mara's project is, "The Effects of Breakfast." Her teacher was Candice Haski. Krontiris-Litowitz explains, "The Lake-to-River Science Day, one of 16 regional science fairs in Ohio sanctioned by the Ohio Academy of Science, draws students from Ashtabula, Trumbull, Mahoning, and Columbiana Counties. Science Day is an annual event sponsored by Youngstown State University, regional businesses, and civic organizations. Student contestants in grades 5 through 12 whose projects are judged 'superior,' may be eligible for competition at State Science Day."

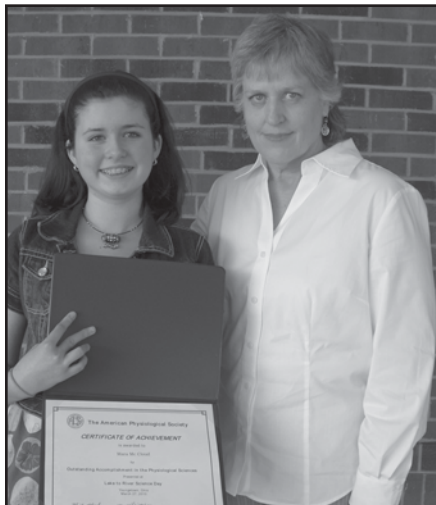
Marie Goering, a senior at Lakeview High School in Columbus, NE, received an APS award for the best physiology project at the 2010 Nebraska Junior Academy of Science Competition. APS member Barbara Engebretsen of Wayne State College was the judge who presented the award. The title of Marie's project is, "Factors Affecting the Regeneration of *Dugesia tigrina*." Her teacher was Ed Kinzer. Engebretsen states that both Marie and her teacher have been invited and asked to submit an abstract to present a poster of her research for the Nebraska Physiological Society annual meeting at the University of Nebraska Medical Center on September 11, 2010. They will be recognized for their achievement along with the APS award winner from the 2010 Greater Nebraska Science and Engineering Fair.

Yan Jia, a sophomore at Westside High School in Omaha, NE, received an APS award for the best physiology project at the

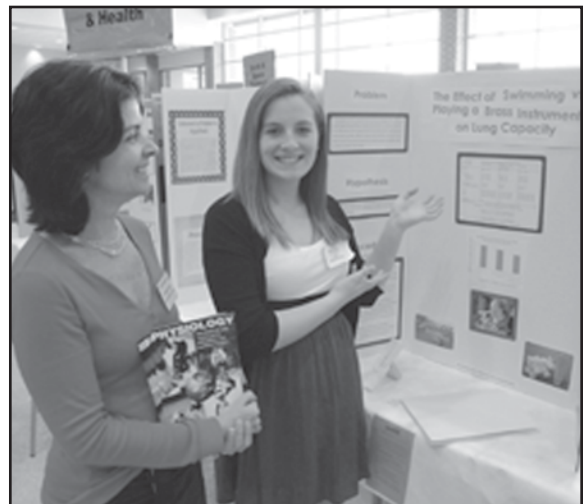


**APS Member Barbara Engebretsen presented Marie Goering with an APS Science Fair Award for her project titled, "Factors Affecting the Regeneration of *Dugesia tigrina*."**

Greater Nebraska Science and Engineering Fair. APS member David Holtzclaw of the University of Nebraska Medical Center was the judge who presented the award. The title of Yan's project is, "Effect of Hyperglycemia on the Expression of Angiotensin II Receptor 1 in Human Coronary Artery Endothelial Cells." Yan's abstract explains, "According to the 2007 National Diabetes Fact Sheet, diabetes affected a total of 23.6 million people and was the seventh leading



**Maria McCloud was presented with an APS Science Fair Award for her project titled, "The Effects of Breakfast."**



**APS Member Helena Carvalho presented Katie Chirco with an APS Science Fair Award for her project titled, "The Effect of Swimming vs. Playing a Brass Instrument on Lung Capacity?"**





**APS Member J. Michael Wyss presented Rachel Stoves and Karyn Ding with APS Science Fair Awards for their projects titled, "Does Dog Saliva Kill Bacteria?" and "Cytoskeletons Coming out of the Closet," respectively.**

cause of death in America. Angiotensin II (Ang II), or the primary active component in the renin-angiotensin system, is a potent growth factor that has been shown to stimulate proliferation and migration of vascular cell and induce the accumulation and deposition of collagen. Previous studies have shown that elevated glucose concentration and activation of the renin-angiotensin system play an important role in the pathogenesis of vascular complications of diabetes. However, a definitive role for an increase in glucose levels in angiotensin II receptor I (AT<sub>1</sub>R) regulation remains poorly understood. In this study, our hypothesis is that high glucose would increase the expression of AT<sub>1</sub>R proteins in human coronary artery endothelial cells (HCAECs). The HCAECs, commercially purchased from Clonetics Corp., are identified by immunostaining with antibody of VIII related antigen specific to the HCAECs. The expression of angiotensin II receptor I (AT<sub>1</sub>R) protein is analyzed by Western Blot. The cultured cells had a cobble stone appearance with a strict monolayer growth and had VIII related antigen. After treatment with high glucose (25 mM), the AT<sub>1</sub>R expression was increased significantly at 0.5 hour, peaked at 12 hours and remained at an elevated level in 24 hours in HCAECs. Both high glucose and Ang II induced a

progressive increase in AT<sub>1</sub>R protein expression on the HCAECs in a dose-dependent manner. These data strongly suggest that hyperglycemia enhances AT<sub>1</sub>R expression in HCAECs."

Katie Chirco, a student at Godwin High School in Richmond, VA, received an APS award for the best physiology project at the Metro Richmond Science Fair. APS member Helena Carvalho of the Virginia Commonwealth Univ. was the judge who presented the award. The title of his her project is, "The Effect of Swimming vs. Playing a Brass Instrument on Lung Capacity." Her teacher was Denice Williams. Carvalho stated, "It was a pleasure to represent APS at the science fair. To see the students committed with their project and excited with the opportunity to talk about what they have learned was priceless."

Benjamin Rivera, a senior at Citrus Park Christian School in Tampa, FL, received an APS award for the best physiology project at the Hillsborough County Science Fair. APS member Stanley Nazian of the Univ. ersity of South Florida was the judge who presented the award. The title of Benjamin's project is, "The Effect of a Phosphatase Inhibitor, Salubrinol and an Estrogen Receptor Agonist, Way-200070, on the Synaptic Plasticity of the CA1 Neurons of the Hippocampus?" His teacher was Kim Watts. The science fair featured projects from elementary to high school levels.

Chloe M. Murtagh, a student at Pascack Hills High School in Montvale, NJ, received an APS award for the best physiology project at the New Jersey Regional Science Fair and ISEF affiliated Science Fair. APS member Sue Shapses of Rutgers Univ. ersity was the judge who presented the award. The title of Chloe's project is, "The Effect of Biological Agents and Novel Combinations on a Drosophila Model of Fragile X Syndrome?" Her advisor is Martin Edelberg.

Karyn Ding, a ninth grader at Alabama School of Fine Arts in Birmingham, AL, received an APS award for the best physiology project at the UAB-CORD Central Alabama Regional Science and Engineering Fair. APS member J. Michael Wyss of Univ. of Alabama at Birmingham was the judge who presented the award. The title of Karyn's project is "Cytoskeletons Coming Out of the

Closet." Her teacher and sponsor was Jo Chambers.

Rachel Stoves, a student at Huffman Middle School in Birmingham, AL, received an APS award for the best physiology project at the UAB-CORD Central Alabama Regional Science and Engineering Fair. APS member J. Michael Wyss of the Univ. of Alabama was the judge who presented the award. The title of Rachel's project is, "Does Dog Saliva Kill Bacteria?" Her teacher was Mark Nixon.

Zachary McNellis, a sophomore at Academic Medical School in North Charleston, NC, received an APS award for the best physiology project at the 30th Lowcountry Science Fair. APS member Monika Gooz of the Medical Univ. of South Carolina was the judge who presented the award. The title of Zachary's project is, "Transient Memory Loss after Anesthesia." Zachary competed in the "Medicine and Health" category. His project, entitled, "Transient Memory Loss after Anesthesia," aimed to investigate how soon after anesthesia induced by various anesthetics patients are capable of remembering instruction." Zach's science teacher, Laura Eicher was presented with an APS resource packet and the *Women Life Scientist* book.

Emily Boes, a student at St. Paschal Baylon Elementary in Highland Heights, OH, received an APS award for the best physiology project at the Northeast Ohio Science and Engineer Fair. APS member Christine S.



**APS Member Monika Gooz presented Zachary McNellis with an APS Science Fair Award for his project titled, "Transient Memory Loss after Anesthesia."**



Moravec of the Cleveland Clinic was the judge who presented the award. The title of Emily's project is, "In, Out, In, Out...Effects of Exercise: Changes in Carbon Dioxide Output."

Sarah Lovett, a junior at Rutland High School in Rutland, VT, received an APS award for the best physiology project at the Vermont State Science and Math Fair. APS member Rachael Hannah of the University of Vermont was the judge who presented the award. The title of Sarah's project is, "Bugs on Drugs." Her advisor was Dawn Adams. Sarah's abstract explains, "This experiment investigates how drugs affect heart rate in Daphnia. The chosen substances for this experiment are alcohol, nicotine, caffeine, and adrenaline (epinephrine). The hypothesis is if Daphnia are exposed to alcohol, nicotine, caffeine, and adrenaline and

solutions, then the heart rate of the daphnia will increase, with the adrenaline solution increasing the most. To test this hypothesis, a Daphnia is examined under a microscope. The heart rate of the Daphnia in the control, water, is determined by counting the heart beat of the Daphnia for 30 seconds, records the data, then multiply that number by two to produce the beats per minute (bpm). The experimenter repeats this process for the nicotine, caffeine, epinephrine, alcohol solutions. Given the results, the hypothesis is accepted for some of the conjectures about the substances such as nicotine, adrenaline, and caffeine. For the other substance, alcohol, the hypothesis was rejected because the heart rate of the Daphnia decreased with an average of 164.6, which is a 49% decrease compared to water. The

hypothesis was also rejected because the adrenaline solution did not increase heart rate the most out of the 4 substances because while the average was 367.6 beats per minute while influenced by adrenaline, increasing by 14%, the caffeine solution increased the heart rate to 525 beats per minute, which was a 63% increase. Nicotine increased the heart rate about 23%. The hypothesis is rejected because adrenaline did not increase heart rate the greatest, caffeine did. This may be because caffeine exhibits all of the symptoms that nicotine and adrenaline do, and therefore, the heart rate of caffeine overtook adrenaline and nicotine. Over time, substances that raise heart rate cause many medical problems including heart palpitations and heart diseases." ❖

## Science Teacher Fellows Participate in APS "Model for Excellence in Science Education" Program

This spring 28 teachers from across the nation were selected to participate in the year-long 2010 Frontiers in Physiology Professional Development Fellowship Program sponsored by the APS ([www.frontiersinphys.org](http://www.frontiersinphys.org)). Frontiers in Physiology was recognized on April 9, 2010 as a "Model for Excellence in Science Education" by the National Lab Skills Symposium convened by the Center for Excellence in Education. As part of the Science Education Partnership Award (SEPA) from the National Center for Research Resources (NCRR) at the NIH, the grant allows the APS program to test a new, online-only professional development course.

The online course differs from the more traditional comprehensive program that includes a summer research experience with an APS member research host and a summer workshop week. The new online course is delivered on a course management system with content modified and enhanced from past Frontiers programs. The lessons, assignments, discussions, and activities are structured in the APS Six Star Science framework for promoting excellence in science education. The Six Star Science principles address student-centered learning, equity and diversity, technology in the classroom, authentic assessment on content and pedagogy, updated content, and intentional reflection. As part of the fellowship in the fall, the Online Teacher Fellows (OTFs) will develop and refine their own inquiry-based, student-centered lab activity for the science classroom. The OTFs conclude their fellowship year next April by finally convening together at Experimental Biology 2011 in Washington, DC. The teacher fellows are mentored through the course by APS Education Office staff and two experienced APS Mentor/Instructors, Margaret Shain from New Albany, IN, and Charles Geach from El Paso, TX.

The following are the 2010 APS Online Teacher Fellows and their schools, listed alphabetically by the teacher's last name:

Judy Barrere, Holy Family School-Kirkland, Kirkland, WA  
Amanda Bennett, Locust Grove High School, Wagoner, OK  
Elizabeth Blazakis, John Costley School, East Orange, NJ  
Walters Cheso, Westview Middle school, Miami, FL  
Lyndsey Collins, Coretta Scott King Young  
Women's Leadership Academy, Atlanta, GA  
Peggy Deichstetter, St. Edward High School, Elgin, IL  
Daniel Durr, Entiat Jr./Sr. High School, Entiat, WA  
Georgia Everett, Tri-Central Comm. Schools, Sharpsville, IN  
Josefina Goodwin, Raleigh Egypt High School, Memphis, TN  
Maya Heissenbittel, Bowdish Middle School,  
Spokane Valley, WA  
Darcel Hunt, Urban Science Academy, Boston, MA  
Marsha Jones, Memphis Academy of Health Sciences,  
Memphis, TN  
Kathleen Keenmon, Detroit Public Schools, Canton, MI  
Landra Knodel, Irene-Wakonda High School, Irene, SD  
Jennifer Lawrence, Whiting High School, Laramie, WY  
Margaret Mauntel, Dubois Middle School, Dubois, IN  
Joseph Moss, D.H. Conley High School, Greenville, NC  
Mary Olesh, East Washington Middle School, Pekin, IN  
Maria Oliver, Sunnyside School District/Challenger  
Middle School, Tucson, AZ  
Anu Pande, Liberty High School, Henderson, NV  
Jamie Reynolds, Orchard Gardens Pilot School, Roxbury, MA  
Deidre Rumph, Hopkins Middle School, Columbia, SC  
Miranda Spang, ASCEND School, Oakland, CA  
Ryan Stander, Focus Learning Academy  
Southwest, Columbus, OH  
Alison Topper, Northside Independent School District,  
San Antonio, TX  
Lynett Walker, Drew-Freeman Middle School,  
Fort Washington, MD  
Marla Watts, Lake Olympia Middle School, Missouri City, TX  
Jack Zebo, Upper St. Clair High School, Pittsburgh, PA.

## Symposium Explores Animal Rights Tactics, Responses

On Saturday April 24, 2010, the Animal Care and Experimentation Committee of the American Physiological Society sponsored a symposium on Trends in Animal Rights Activism and Extremism. This event was part of the Experimental Biology 2010 meeting in Anaheim. In introducing the symposium, session chair Bill Yates underscored the importance of animal welfare and the obligation human beings have to provide for the well-being, humane care, and judicious use of animals in research. Those who utilize animal experiments to advance our understanding of biological processes recognize the value of animal welfare. He contrasted this with some individuals who reject the notion that research with animal models plays a critical role in advancing knowledge and the search for cures. Some extremists who hold this belief use tactics such as violence and intimidation to prevent researchers from conducting studies using animals. The intent of the symposium was to inform researchers about the tactics of animal rights extremists and what researchers and their institutions can do to protect themselves and their work.

UCLA Senior Campus Counsel Amy Blum opened the symposium by suggesting steps researchers can take to protect information that may be subject to the federal Freedom of Information Act (FOIA) or state open records laws. She explained that FOIA requires federal agencies to disclose records concerning the general activities of government and also applies to information in their files that comes from institutions that receive funds from the government, including grant funds. Some animal rights extremists have used information obtained under FOIA to target investigators for intimidation and harassment. Thus,



Photo credit: C. Lossin

**ACE Committee Chair Bill Yates introduced the speakers.**

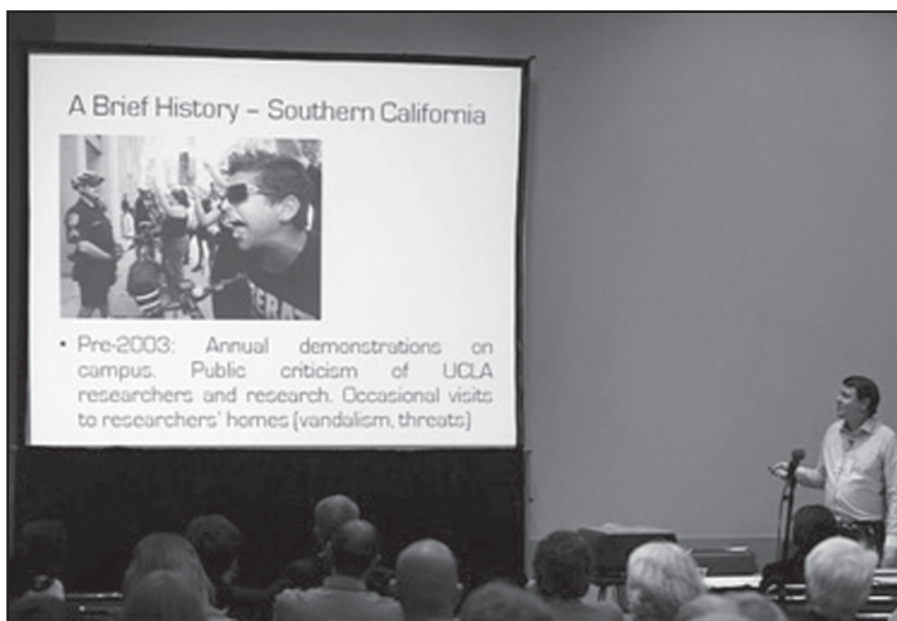


Photo credit: C. Lossin

**David Jentsch described the escalation of animal rights activities at UCLA over the past decade.**

although FOIA is a mandatory disclosure statute, information may be exempted from disclosure under specific circumstances and researchers and institutions should consider the potential exemptions to be utilized to protect them. Exemptions that might apply in some cases include privileged communications between attorneys and clients; trade secrets or confidential commercial or financial information; personnel and medical files; or information that might endanger a person's life or safety. The details of other public records laws vary from state to state but generally are similar to FOIA, with additional exemptions.

Exercising care in how documents and communications are written to avoid unnecessary disclosure of sensitive information are actions that may be "difficult in the short run" but will "make your life easier in the long run," Blum said. She suggested that researchers use particular care in drafting email messages, which can be subject to disclosure. For example, all work-related business should be conducted using a work account, while a personal account should be used for all non-work related communications. "If you use your personal account for work discussions, it becomes subject to disclosure," she explained.

The subject line should define the scope of the message. "If the scope

changes then modify the subject line," she said. "Keep messages short and on point," she added because this makes it easier for attorneys to determine what must be disclosed. Avoiding the use of jokes or sarcasm is wise because those statements may take on a different meaning if taken out of context. It is also a good idea to avoid putting personal information such as names and addresses in an email message. In addition, use the "to" line only for those who are expected to take action. Those who merely need to be kept informed should be listed on the "cc" line.

The National Association for Biomedical Research (NABR), Society for Neuroscience (SfN), and Federation of American Societies for Experimental Biology (FASEB) have developed a "best practices" guide for responding to FOIA and state open records law requests.

University of Iowa (UI) Attending Veterinarian and Office of Animal Resources Director Paul Cooper reviewed the 2004 Animal Liberation Front (ALF) break-in during which some 400 rats and mice were stolen from the facility and almost certainly died of suffocation as a result; lab equipment was carefully disassembled and destroyed; researchers' offices were trashed; and research records were destroyed with acid. Cooper showed



Photo credit: C. Lossin

## Attendees engaged David Jentsch in informal discussion after the program.

clips from a 45-minute video supplied by ALF, as well as images captured by UI security cameras before and after the break-in. As a result of the break-in, which clearly involved individuals with employee access to the facility, the UI stepped up its security measures. His message was clear: every research institution has to take its security seriously because if an ALF break-in can happen in Iowa City, it can happen anywhere.

David Jentsch, a UCLA professor of psychology and psychiatry and bi-behavioral sciences, reviewed the history of animal rights extremism at UCLA, including the 2009 firebombing of his car in an arson attack that took place in the middle of the night in the driveway of his home. Such events “are a reality,” Jentsch said, “but there are things you can do.” His response was to found Pro-Test for Science, an organization that subsequently staged the first major public demonstration in support of animal research in the United States.

Jentsch described the escalation of animal rights activities at UCLA over the past decade, emphasizing that the institution’s unwillingness to respond to these activities led to a crisis of confidence among researchers. From 2001 to 2003, there were annual demonstrations where animal rights demonstrators criticized the university, researchers, and their work. “When they do that and you make no response, you are contributing to the decline in public confidence,” Jentsch noted. Starting around 2003, extremists began sending threatening emails and vandalizing researchers’ homes during late-night visits, which led to a climate of

increasing fear. Extremists left a Molotov cocktail on the doorstep of one UCLA researcher—except that they actually left it at the home of the researcher’s elderly neighbor. (Fortunately, the device failed to detonate.) Another faculty member and his family were subjected to repeated home demonstrations and threats. The university’s only public comment during this period was a statement denouncing terrorism. This was consistent with views widely held across many institutions that they should not respond to accusations against researchers because that would add to the critics’ credibility. It was the university’s pursuit of this strategy of silence in the face of increasingly hostile and violent attacks that ultimately precipitated a crisis: in the fall of 2006, a researcher who was studying how the brain processes visual information announced that he would terminate his research program. He asked in return that animal rights activists leave him and his family alone. He delivered his plea in an email message to the North American Animal Liberation Press Office with the subject line “You win.”

In the wake of this episode, and continuing threats, harassment, and vandalism against other UCLA researchers, the faculty demanded that a serious reappraisal of the university’s approach. This led to a series of recommendations from a task force comprised of representatives from the faculty and other critical sectors within the university. The task force recommendations stressed steps that the university should take to ensure that its faculty can pursue their research in a safe environment. It also recommended that when researchers are under attack, campus leaders should publicly defend their work and make provisions to protect them both at work and at home.

Although the University’s responses improved, the activists’ attacks did not abate. In 2007, there was an unsuccessful attempt to firebomb one faculty member’s car; the home of another faculty member was deliberately flooded. In 2008, the door to the same individual’s home was set on fire; a commuter van belonging to the university was burned; and cars were vandalized in the driveway of a post doc’s home and at the home of a researcher’s neighbor. Finally, in early 2009, Jentsch’s car was firebombed in the driveway of his home. This “intensification to a climax of violence” demonstrated to Jentsch that the “strategy that



Photo credit: C. Lossin

## Megan Wyeth discussed the importance of letting people know that animal research is a humane and highly regulated activity.

the university was using wasn’t working and wasn’t going to work.”

The first Pro-Test for Science Rally was held April 22, 2009. The goal of the rally was to let the public know that “animal research is contributing to basic science understanding of physiology and helping us to solve an array of problems in biomedicine.” Although counter-protesters showed up to take pictures, Jentsch said that not only did this fail to intimidate the participants, it was “fair to say that everyone who came left feeling that there was something they can do” to support research.

“Get ahead of the issue,” Jentsch urged. “Don’t wait.” He recommended that every individual scientist get into the habit of engaging the public about science: “Tell them what you do—be your own advocate.”

Americans for Medical Progress Hayre Fellow Megan Wyeth spoke about public outreach for the early career scientist. Public outreach can take many forms, she noted, recommending that everyone work within his or her own comfort levels. She urged those who teach to cite the basic animal research that led to the breakthroughs in order to raise their students’ awareness of what animal research has contributed. “Tell people what you do,” Wyeth said. She suggested emphasizing that animal research saves lives; that it is necessary for medical progress; and it is a humane and highly regulated activity.

For additional information about research advocacy on university campuses, see Speaking of Research. ❖



## USDA Announces Enhanced Animal Welfare Act Enforcement

On May 20, 2010, Deputy Secretary of Agriculture Kathleen Merrigan announced that USDA's Animal and Plant Health Inspection Service (APHIS) is stepping up its Animal Welfare Act (AWA) enforcement efforts. This announcement was made in a conference call with representatives of regulated entities in the research community, as well as advocacy groups such as animal rights organizations.

The AWA is a federal law that regulates the treatment of animals in research and in zoos and exhibits. It also regulates dealers and intermediate carriers who buy, sell, or transport these animals. The AWA applies to warm-blooded animals, with the exception of rats, mice, and birds that were bred for research. The typical laboratory animals regulated under the AWA include rabbits, dogs, cats, ferrets, pigs, sheep, and non-human primates.

At the announcement briefing, APHIS Deputy Administrator for Animal Care Chester Gipson said new procedures are being implemented to ensure that the agency will be "tougher on repeat offenders" and ensure that all USDA Veterinary Medical Officers (VMOs) "conduct inspections and pursue noncompliance in the same way." The new inspection requirements have also been posted at [http://www.aphis.usda.gov/animal\\_welfare/downloads/Inspection\\_Requirements.PDF](http://www.aphis.usda.gov/animal_welfare/downloads/Inspection_Requirements.PDF).

APHIS held a meeting in Kansas City from April 19–22 to provide staff training in new inspection procedures intended to improve enforcement efforts. Some 150 Veterinary Medical Officers and other Animal Care staff from all over the country took part in a review of the new inspection requirements guide. According to the summary of the meeting posted to the APHIS website, Merrigan's keynote speech to the staff called for an "age of enforcement."

On May 25, five days after Merrigan's announcement, the USDA's Office of the Inspector General (OIG) released a report (<http://www.usda.gov/oig/webdocs/33002-4-SF.pdf>) criticizing APHIS for ignoring repeated AWA violations committed by large-scale dog breeders and brokers known as "puppy mills." Auditors visited 68 such licensees in eight states who had been cited for one or more AWA violations between 2006 and 2008. According to the report, the auditors determined that half of these breeders and brokers were later cited for additional violations. The report said that APHIS commonly waived or reduced penalties and failed to collect adequate documentation of mistreated animals, which hampered enforcement efforts. In response to questions about the OIG report, Agriculture Secretary Tom Vilsack told the *Associated Press* that "USDA will reinforce its efforts under its animal welfare responsibilities, including tougher penalties for repeat offenders and greater consistent action to strongly enforce the law."

Although the OIG did not investigate any research facilities, APHIS intends to apply the recommendations to inspections of all regulated entities. The goal of the efforts, according to one USDA official, is to eliminate all noncompliance. In pursuit of this goal, the agency will take immediate enforcement action whenever an inspector finds a "direct" or severe violation that affects the health and well-being of the animal or could do so in the near future. Recurrences of moderate violations of the AWA may also lead to USDA enforcement action, even if the previous violation involved different animals and a different portion of the facility. Recurrent citations for relatively minor violations could also result in enforcement action, although inspectors are allowed to use their professional judgment in deciding whether to cite an item as

ILAR Releases *Guide* Update

On June 2, 2010, the Institute for Laboratory Animal Research (ILAR) of the National Academy of Sciences released the pre-publication version of the 8th edition of the Guide for the Care and Use of Laboratory Animals. The last major revision to the Guide was completed in 1996. The Statement of Task for the panel that wrote the new Guide was to update the 1996 version "to reflect new scientific information related to the issues already covered in the Guide, and to add discussion and guidance on new topics of laboratory animal care and use related to contemporary animal research programs." The panel spent nearly two years working on the Guide update including both public hearings and private deliberations.

The Public Health Service Policy on Humane Care and Use of Laboratory Animals requires institutions to hold an Animal Welfare Assurance in order to receive federal funds for research with live vertebrate animals. The PHS Policy requires institutions to use the ILAR Guide as "a basis for developing and implementing an institutional

program for activities involving animals." However, on June 4, NIH's Office for Laboratory Animal Welfare (OLAW) announced that until the new edition of the Guide is published in its final form, NIH will continue to utilize the 1996 edition. It should be noted that when the 1996 edition was published, there was a one-year phase-in period before the provisions of the new Guide took effect.

The AAALAC Council on Accreditation is currently reviewing the new edition of the Guide. In a statement posted on its website June 30, AAALAC said that "until the AAALAC Board of Trustees ratifies the recommendations from the Council on Accreditation resulting from the Council's review of the 2010 Guide, the 1996 version of the Guide will continue to be the main standard used by AAALAC to evaluate animal care and use programs."

OLAW has posted a link to the pdf version of the Guide on its website at <http://grants.nih.gov/grants/olaw/news.htm#20100616>. Click on the letters "pdf" at the end of the announcement to download the file. ❖

new or a repeat violation. The AWA regulations contain an enormous amount of detail, including some requirements that are not likely to have any immediate adverse effect on the health or well-being of animals. For example if the IACUC approves a protocol in the absence of a quorum or there is peeling paint in an animal facility, these can be cited as AWA vio-

lations. APHIS has provided new instructions on how to document AWA violations in an inspection report through detailed descriptions and photographs so the agency can prosecute offenders more effectively.

It should be noted that since 2005, inspection reports have been made available to the public on an E-FOIA website 21 days after they were filed.

However, if a facility disagrees with an inspector's finding, it can make an appeal. In that case, the report will not be posted until the dispute is resolved, at which point, both the original report and a corrected version will be posted. Research institutions are encouraged to monitor inspection reports for their facility at [http://www.aphis.usda.gov/animal\\_welfare/efoia/7023.shtml](http://www.aphis.usda.gov/animal_welfare/efoia/7023.shtml). ❖

## Judge Appoints Special Prosecutor to Investigate Sheep Deaths

In early June, Dane County Wisconsin Circuit Court Judge Amy Smith appointed Attorney David A. Geier as a special prosecutor to investigate the deaths of four sheep during a decompression study at the Univ. of Wisconsin-Madison (UW-Madison). Smith issued her decision in response to a petition from People for the Ethical Treatment of Animals (PETA) and Alliance for Animals for the court to issue a criminal complaint after the district attorney refused to prosecute the researchers involved.

If Geier chooses to prosecute, it would be the first time since the 1981 Silver Spring monkey [in online version link to <http://the-aps.org/publications/tphys/legacy/1984/issue3/144.pdf>] case that researchers were brought to trial for laboratory animal cruelty charges. It was the case of the Silver Spring monkeys that PETA first used to gain national attention.

PETA and the Alliance for Animals claim that 14 researchers, veterinarians, administrators, and IACUC members at UW-Madison violated a Wisconsin state law banning animal euthanasia via decompression. The research, funded in part by the US Navy, involves placing sheep in a hyperbaric chamber to investigate methods of avoiding decompression sickness, commonly referred to as the bends. Dale Bjorling, chairman of the Department of Surgical Sciences in the UW-Madison School of Veterinary

Medicine, told the Wisconsin State Journal that the work has resulted in more accurate decompression tables, improving outcomes for Navy divers.

Before petitioning the court, the animal rights groups first urged Dane County District Attorney Brian Blanchard to investigate the deaths. Blanchard determined that there was a "civil violation" of the decompression statute each time a sheep died in the experiments but declined to prosecute. "It would not be a wise use of the resources of this office to pursue forfeiture actions for each sheep death in connection with peer-reviewed, potentially life-saving research," Blanchard wrote in a letter to UW-Madison.

UW-Madison argued that the exemption for research in other sections of Wisconsin anti-animal cruelty laws applied to the decompression clause as well, but both Blanchard and Smith rejected this view. The university stopped the experiments after Blanchard issued his opinion.

Smith wrote in her decision that there was probable cause to find that 9 of the 14 named individuals "intentionally or negligently violated Wisconsin law," but "nothing indicates that those involved were motivated by malice." She explained that "simply violating the statute" only results in "Class C forfeiture" of property, which is not considered a crime. The statute by which the petition was brought to her, however, only authorizes a judge to issue a crim-

inal complaint. She noted that a Special Prosecutor would not be "similarly limited" and could bring lesser charges, if he determined there was no criminal conduct. Furthermore, her decision "is based only upon the limited information in the petitioners' submissions," whereas a special prosecutor could collect additional information and would have the authority to issue an injunction against future decompression studies.

### Chilling Effects

The case has drawn widespread concern for a number of reasons. "If animal rights groups continue to pursue the use of laws in ways they were not originally intended, I'm concerned that universities may be forced to expend additional resources to counteract these unwarranted legal attacks," Foundation for Biomedical Research president Frankie Trull told the New Scientist. Trull recommended that institutions doing biomedical research "educate their in-house counsels about these animal rights strategies and be prepared."

"Any kind of an approach that puts scientists or anyone else at risk for legal action obviously is going to have a kind of dampening effect," UW-Madison Director of the Research Animal Resources Center Eric Sandgren told the Wisconsin State Journal. ❖

Time: 5:45 PM, Tuesday, April 27, 2010  
Place: Anaheim, CA

## I. Call to Order

The meeting was called to order at 5:45 PM by **President Gary C. Sieck**, who welcomed the members to the 163rd Business Meeting of the American Physiological Society. A booklet containing the agenda and a listing of all the APS award recipients was distributed.

## II. Election of Officers

President Sieck announced the results of the election. The election was conducted via an online ballot. The new President-elect is **Joey Granger**, Univ. of Mississippi Medical Center (April 28, 2010–April 24, 2013). The three newly elected Councillors are **Ken Baldwin**, University of California, Irvine; **Ida Llewellyn-Smith**, Flinders University, Australia; and **Alan Sved**, University of Pittsburgh (April 28, 2010 – April 24, 2013). They are replacing Barbara Goodman, Joey Granger, and David Pollock who are completing three-year terms on Council. The newly elected Councillors will serve a three-year term. All newly elected officers will assume office at the close of the Annual Meeting.

## III. Bylaw Changes

The following bylaw change allows the Committee on Committee to increase or decrease the number of members as deemed necessary, such as adding a young faculty member to the committee. The proposed amendment was published in *The Physiologist* [52(6): 220, 2009].

**SECTION 2. Finance Committee.** A Finance Committee, composed ~~five of~~ at least five regular members of the Society appointed by Council, shall receive the total coordinated budget proposals annually from the Executive Director and shall determine the annual budgets, reserve funds and investments of the Society, subject to approval by the Council. The term of each member of the Finance Committee shall be three years; a member may not serve more than two consecutive terms. The Council shall designate the Chairperson of the Committee who shall be an ex officio member of the Council, without vote. On advice of the Finance Committee and consent of Council, the Executive Director shall be empowered to appoint

and compensate a Director of Finance who shall assist in carrying out the functions of the Finance Committee under the supervision of the Executive Director. The Past President shall serve as a voting member of the Finance Committee. The President-Elect, President, Executive Director, the Chairperson of the Publications Committee, and the Director of Finance shall be ex officio members of the Finance Committee, without vote.

**The motion was unanimously passed by the membership approving the amendment to the Bylaw.**

## IV. State of the Society

President Sieck addressed the membership and spoke on the state of the Society.

"It is hard to believe that EB marks the end of my term as your President. It has truly been a pleasure to be the Society's 82nd President and to serve you and the entire discipline of physiology.

"Some told me that with the Society's outstanding staff, it is easy being APS President. While the APS staff is truly outstanding, it has been a busy year, the hardest part of which was picking up after Marty. But I can't say enough about all the support Marty and the APS staff provide. They make the job of president easy!

"In the article I prepared for *The Physiologist*, I noted that I was honored to be the 5th APS President from the Mayo Clinic. I truly stand on the shoulders of giants following in the footsteps of Frank Mann, Hiram Essex, Earl Wood, and Frank Knox. I felt humbled when I wrote the article, and still feel humbled today to have served as the APS President, joining all those who have served since our first President, Henry Pickering Bowditch.

"When I took office, I had two primary goals for the Society: First, to re-establish the pre-eminent role of physiology; and second to extend the horizons of the APS in a new and rapidly changing scientific, medical and financial environment.

"As part of that effort, I created a Physiology InFocus Program reflecting my view that physiology, biomedical engineering, and medicine are inextricably linked. It has been my goal to see the APS use this linkage to re-establish the preeminence of physiology as the foundation of medicine.

"One of the biggest challenges for the Society this past year was main-

taining programs during the financial crisis. Thanks to the leadership of Jeff Sands, APS Finance Committee Chair, and Robert Price, APS Director of Finance and Administration, the APS survived the financial crisis without having to cut programs or staff. While at one point our reserves were diminished by about 28%, much of their value has recovered during the past year.

"As President, I was joined by Irv Zucker and Peter Wagner, to visit with our elected representatives in Congress. Thanks to the efforts of the APS Science Policy staff led by its Director, Alice Ra'anan, we were well prepared to discuss issues of importance to you our members. I would strongly urge each of you to become an advocate for our discipline. Use the materials that have made available for you on the APS website.

"During the course of my Presidency, I had a number of opportunities to explore the possibility of international collaborations between the APS and our sister societies.

"In Kyoto, I was a representative to the IUPS General Assembly along with Dee Silverthorn, Kim Barrett, William Jackson, Allen Cowley and Walter Boron. The main business of the General Assembly was the election of officers, the confirmation of the Congress venue for 2013 – Birmingham, UK, and the selection of the 2017 venue – Rio De Janeiro, Brazil.

"The 2009 IUPS Congress attracted over 4,000 scientists and provided the US delegation with an opportunity to begin discussions with colleagues in the United Kingdom and Brazil about future collaborative initiatives.

"The APS has already signed a *Memorandum of Agreement* with The Physiological Society to have an exchange program of symposia at our annual meetings. We have also begun discussions with The Physiological Society about jointly launching a journal focusing on the important role that physiology plays in medicine. Lastly, we are exploring ways to provide our flagship journal *Physiology* to all members of The Physiological Society.

"In Kyoto I also had an opportunity to talk with Benedito Machado about possible collaborations with colleagues in the Brazilian Physiological Society and the APS. Those discussions were continued yesterday afternoon when a delegation from Brazil met with the



APS leadership. It appears likely that the APS will participate in a Pan-American Physiological Meeting in 2014 in Brazil.

"While it was not part of my official duties, I joined Irv Zucker at the Indian Science Congress in January to promote physiology and the activities of the Society with a continued focus on outreach to our scientific colleagues in India and Asia.

"While in Kyoto, I also had an opportunity to talk with colleagues from the African Association of Physiological Sciences. A number of our APS members have participated in the AAPS meetings in the past and I am hopeful that we can continue to be of assistance both individually and as a Society.

"The APS Publications Program, led by Kim Barrett and Rita Scheman, remains strong. The staff continues to reduce the time from acceptance to publication in our journals, but we remain very concerned by the increasing number of ethical cases that need to be addressed as manuscripts go through the review process.

"The most exciting element of the past year has been the agreement between the APS and Wiley to create an online version of the Handbook of Physiology. The goal is to make *Comprehensive Physiology* the most comprehensive and authoritative collection of physiology information. *Comprehensive Physiology* is a combination book and journal, a 'bournal,' or a 'jook' with reviews being published online on a regular basis. Information about *Comprehensive Physiology* will be available in future APS News Updates as well as in *The Physiologist*.

"The APS continues to be a leader in Science Education in areas of K through professional education thanks to the efforts of Tom Presley and Marsha Matyas. One of the most successful projects over the past few years is PhUn Week, an event that APS has conducted in early November for the last 5 years. It is designed to bring physiology to K-12 classrooms. Last year, there were 40 PhUn Week activities that involved 250 APS members and reached nearly 10,000 students. Hopefully you will join in the PhUn Week scheduled in 2010.

"The APS is extending its reach by adapting our PhUn week activities to accommodate the needs of the International Science and Engineering

Festival being held on the National Mall in Washington, DC, on October 23-24. The APS is being joined by over 200 other associations and corporations to highlight science and engineering for the thousands expected to attend the Festival.

"I am pleased to announce that Council has agreed to continue to sponsor the highly successful Professional Skills Training Project in 2011 and 2012. The Workshops are designed to help graduate students and postdoctoral fellows improve their presentation skills and their ability to write a successful manuscript for publication. Traditionally the Workshops have been held over the Martin Luther King birthday weekend in January. The date and time of the programs will be announced shortly. In addition to the Workshops, the APS staff has also created online versions of these courses available through the APS Home Page.

"Starting with EB 2011 scheduled for April 9-13 in Washington, DC, the annual APS meeting will be changing. While it will continue to have all the features that you are used to seeing at the Society's annual meeting, it will be changed in order to strengthen the scientific program. As a result of efforts by the Section Advisory Committee led by Pam Carmines and the Joint Program Committee led by Ron Lynch, the APS

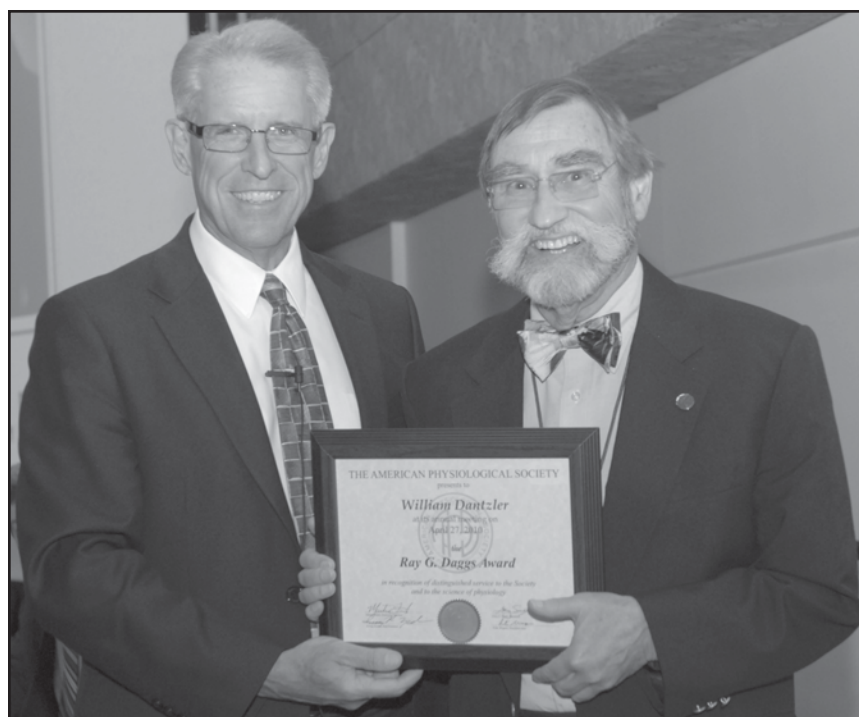
portion of EB 2011 and future EB meetings will have more sessions as the Society programs on Wednesday afternoon. Sessions have been added on Wednesday afternoon in order to help the sections strengthen the program offerings for their members. Please plan on staying through Wednesday afternoon at next year's EB meeting.

"Earlier this year we put out a call for a redesign of the Society's logo and I am pleased to acknowledge the efforts of Aaron Trask and his father, Mark, to create the winning design shown here. The new logo will get increased visibility during the coming year.

"While my year has been very busy, it is going to be even busier in the coming year for our incoming President, Peter Wagner, who will be overseeing the Society's Strategic Planning efforts which will include the issuance of a member survey later this year and a planning meeting in early 2011. In addition, he and Joey Granger will be working with the APS staff to prepare the Society for its 125th Anniversary celebration in 2012 in San Diego.

## B. Future APS Meetings

There will be an APS Intersociety Meeting entitled Change and Global Science: Comparative Physiology in a Changing World, August 4-7, 2010,



APS President Gary Sieck presents the Ray G. Daggs Award to William Dantzler.

Westminster, Colorado. There will be an APS Conference entitled Inflammation, Immunity and Cardiovascular Disease, August 25-28, 2010, Westin, Westminster, CO. The Experimental Biology 2011 meeting will be April 9-13, in Washington, D.C.

## V. Membership

### A. Deaths Reported Since the Last Meeting

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

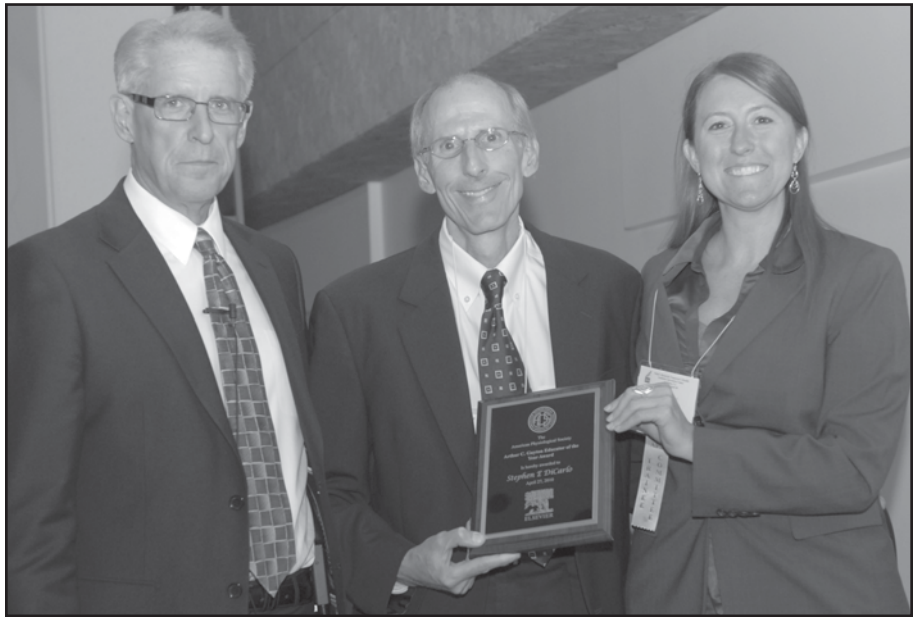
## VI. Awards and Presentations

### A. Ray G. Daggs Award

Ray G. Daggs was the APS Executive Secretary-Treasurer from 1956 until his retirement in 1972. In tribute to his devotion to the Society, the Ray G. Daggs Award was established, and is given annually to a physiologist for distinguished service to the Society and to the science of physiology. The 2010 Daggs Awardee is William Dantzler.

Bill has had a distinguished career as a scientist and mentor, as well as a long history of service to APS, and to the discipline of physiology. He has had a long association with APS, dating back to 1973 when he participated on an APS Audiovisual Review Panel to evaluate physiology teaching materials, and continuing to this day as he serves as a member on the Senior Physiologists Committee. He has served on numerous APS Committees and in leadership positions at all levels of the APS, including three APS sections, APS Council, and APS President. He has represented APS on the US National Committee for the IUPS, the Committee on Scientific Commissions of IUPS and on committees in the AAMC, including the Executive Council of the AAMC. For his work in the AAMC, he received the AAMC Distinguished Service Award in 2005.

Dr. Dantzler has been an outstanding contributor to the advancement of physiology nationally serving on various NSF and NIH study sections and the Scientific Advisory Board for the National Kidney Foundation. He has also evaluated undergraduate and graduate physiology programs at numerous universities. During his term as Chair of Physiology at the University of Arizona, he built strong



**APS President Gary Sieck presents the Guyton Teacher of the Year Award to Stephen DiCarlo, along with Selection Committee Chair Erica Wehrwein.**

and nationally ranked undergraduate and graduate physiology programs that integrated physiology at all levels of biological organization. His leadership ability was also apparent in his service to the Association of Chairs of Departments of Physiology, which honored him with its Distinguished Service Award in 2007.

It is important to mention that Dr. Dantzler is internationally recognized as an outstanding scientist who has made major contributions in the areas of comparative and mammalian renal physiology. He has a long history of NIH support, a distinguished record of publications and a long list of invited presentations at national and international meetings and universities. His research has focused on comparative nephron function in avian, reptilian, amphibian, and mammalian species, increasing understanding of functional and structural relationships and renal tubular transport mechanisms of organic ions and amino acids in these vertebrates. In recognition of the quality and impact of his research, he was selected as the 2004 August Krogh distinguished Lecturer by the APS Comparative Physiology Section.

### B. Bodil Schmidt-Nielsen Distinguished Mentor Award

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

contributions to physiological research and demonstrated dedication and commitment to excellence in the training and mentoring of young physiologists, as well as colleagues. The award was established to recognize Dr. Bodil M. Schmidt-Nielsen, the first woman President of the Society and a distinguished physiologist who has made significant contributions in her field. The recipient of the 2010 Bodil Schmidt-Nielsen Award is Dr. M. Harold Laughlin, Univ. of Missouri, Columbia.

### C. Arthur C. Guyton Teacher of the Year Award

The Arthur C. Guyton Physiology Teacher of the Year Award is selected by the Teaching Section and is presented to an APS member who is a faculty member at an accredited college or university. The Selection Committee selects a candidate for the Award who demonstrates evidence of: First, excellence in classroom teaching over a number of years at undergraduate, graduate, or professional levels; Second, commitment to the improvement of physiology teaching within the candidate's own institution; and Third, contributions to physiology education at the local community, national or international levels. This year's selection committee was chaired by Erica Wehrwein.

Dr. DiCarlo employs an interactive teaching style to engage his students in his classes. He has published extensively in medical education journals on



his teaching techniques. He has also served as the Associate Editor of *Advances in Physiology Education* from 2001-2007.

Dr. DiCarlo's passion for teaching will not only be his legacy, but has garnered him a tremendous number of teaching awards. These include the 2009 Claude Bernard Distinguished Lectureship; the 2009 Faculty Research Excellence Award, Wayne State Univ. School of Medicine; induction as a Charter Member in the Academy of Scholars, Wayne State Univ. School of Medicine; the 2003 Lamp Award for most outstanding basic science teaching over years 1 and 2; and the 2003 President's Award for Excellence in Teaching, Wayne State Univ.

Dr. DiCarlo also has worked in the Minority High School Science Education Program which is a research program developed by Wayne State Univ. School of Medicine, to provide high school students with opportunities for science enrichment and hands-on research experiences.

Perhaps one of his most amazing qualities is that all of the work and passion Dr. DiCarlo dedicates to teaching has always been set against the backdrop of an amazing academic career that has included over 135 peer reviewed papers, 44 dedicated to medical education, and years of continuous funding including two current NIH RO-1 grants. His passion for teaching extends far beyond the lecture hall and classroom to include training over 45 graduate students and post-doctoral fellows in his laboratory. That he



**APS President Gary Sieck presents Sachiko Kuno and Ryuji Ueno, founders of Sucampo Pharmaceuticals, Inc., and the S&R Foundation, with certificates of appreciation.**

has maintained his status of a nationally renowned educator while also maintaining his internationally recognized research program is simply an amazing testament to his work ethic and passion as an educator and researcher. This year's recipient of the Arthur Guyton Teacher of the Year Award is Stephen DiCarlo, Ph.D., Wayne State University School of Medicine.

#### **D. Early Career Professional Service Award**

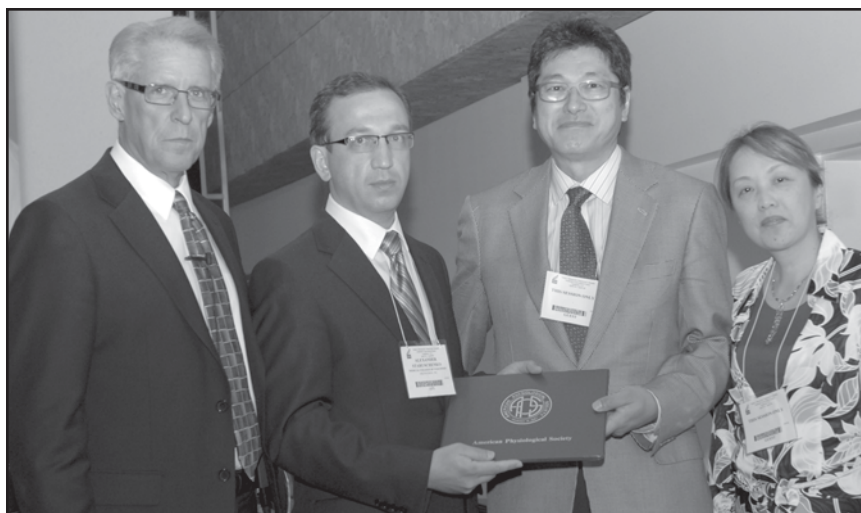
The Early Career Professional Service Award honors a member of the Society at an early career stage (graduate student,

postdoctoral fellow, Assistant Professor or equivalent position) who is judged to have made outstanding contributions to the physiology community and demonstrated dedication and commitment to furthering the broader goals of the physiology community. This can be by serving on professional committees, participating in K-12 education outreach, participating in scientific advocacy and outreach programs, or by otherwise strengthening and promoting the physiology community. The recipient of the 2010 Early Career Professional Service Award is Catharine G. Clark, Univ. of Missouri, Columbia.

#### **E. Presentation of Certificates of Appreciation to Drs. Kuno and Ueno**

Sieck presented a certificate of appreciation to Drs. Kuno and Ueno saying "I would like to take this opportunity to recognize Drs. Kuno and Ueno for their support of the Walter B. Cannon Award Lecture and for providing support, through the S&R Foundation, for the Society's Ryuji Ueno Award for Ion Channels or Barrier Function Research."

Drs. Ueno and Kuno founded Sucampo AG in 1997 after successfully developing and commercializing two pharmaceutical products based on prostone. In 2000, they founded the S&R Foundation to encourage and stimulate scientific research among young individuals.



**APS President Gary Sieck, Ryuji Ueno, and Sachiko Kuno present Alexander Staruschenko with the S&R Foundation Award.**





**APS President Gary Sieck presents Andrew Lovering and Ian Davis with the Giles F. Filley Memorial Awards.**

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

The Ueno Award is an annual award of \$30,000 given to an individual demonstrating outstanding promise based on his or her research in ion channels or epithelial barrier function, and who holds an academic rank of assistant professor or higher. APS is pleased to recognize this year's awardee Alexander Staruschenko, Medical College of Wisconsin.

**G. Giles F. Filley Memorial Awards**

As a result of a bequest from the family of Giles F. Filley, a memorial fund was established in 1993 to recognize excellence in respiratory physiology and medicine. Two annual awards of \$12,000 are made to investigators who hold an academic rank no higher than assistant professor and are pursuing research in respiratory physiology and medicine. Awards are made to APS members working in the United States, who have demonstrated outstanding promise based on their research program. APS is pleased to recognize this year's awardees Ian C. Davis, Ohio State Univ., and Andrew T. Lovering, Univ. of Oregon.

**H. Lazaro J. Mandel Young Investigator Award**

As a result of a bequest from the wife of Lazaro J. Mandel, a memorial fund was established in 1999 to recognize

excellence in epithelial or renal physiology. An award is made to an APS member working in the United States who has demonstrated outstanding promise based on his or her research program. The awardee is an investigator who holds an academic rank no higher than assistant professor and is pursuing research in epithelial or renal physiology. The award is \$4,000 and is designated for the use of the awardee in his/her research program. APS is pleased to recognize this year's awardee Alejandro Chade, Univ. of Mississippi Medical Center.

**I. Shih-Chun Wang Young Investigator Award**

As a result of a bequest from the wife of Shih-Chun Wang, a memorial fund was established in 1998 to recognize excellence in physiology. An annual award is made to an investigator who holds an academic rank no higher than assistant professor and is pursuing research in physiology. The award is made to an APS member working in the United States who has demonstrated outstanding promise based on his or her research program. The award is for approximately \$4,000 and is designated for the use of the awardee in his or her research program. APS is pleased to recognize this year's awardee Eric Lazartigues, Louisiana State Univ. Health Sciences Center.

**J. Arthur C. Guyton Young Investigator Award**

The Arthur C. Guyton Award Fund was established in 1993 to recognize the contributions of Arthur C. Guyton and his interests in feedback, modeling, and integrative physiology. The awards are made to independent investigators working in the United States, who hold an academic rank no higher than assistant professor, and are pursuing research that utilizes integrative approaches to the study of physiological function and explores the role of feedback regulation in physiological function. Each award is for \$15,000 and is designated for use by the awardee in



**APS President Gary Sieck presents the Lazaro J. Mandel Young Investigator Award to Alejandro Chade.**



**APS President Gary Sieck presents the Shih-Chun Wang Young Investigator Award to Eric Lazartigues.**

his/her research program. This year the Society is pleased to present the award to Kelly J. Suter, University of Texas at San Antonio.

## **K. Orr E. Reynolds Award**

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

The recipient receives \$500 and expenses to attend the spring meeting of the Society. The 2010 Reynolds Awardee is Dr. R. Dustan Sarazan from Covance Laboratories, Inc., for his article entitled "Standing on the shoulders of Giants: Dean Franklin and his



**APS President Gary Sieck presents the Arthur C. Guyton Young Investigator Award to Kelly Suter.**

remarkable contributions to physiological measurements in animals".

## **L. Physiologists in Industry Committee Awards**

The Physiologists in Industry Awards were given for the first time in 1999, and are given to a graduate student and to a postdoctoral fellow submitting the best abstract describing a novel disease model. This award is sponsored by the Physiologists in Industry Committee. The 2010 Physiologists in Industry Awards will be presented by the Committee's Chair Craig Plato. The recipients of this year's awards are Chad Markert, Wake Forest Univ., and Mohammed Ali, Medical College of Georgia.

## **M. David S. Bruce Awards**

The annual David S. Bruce Awards for Excellence in Undergraduate



**APS President Gary Sieck presents the Orr E. Reynolds Award to Dustan Sarazan.**

Research are granted to ten undergraduate students who are first authors on a poster presented at the EB meeting. Each will receive a cash award of \$500. Support for these awards is provided by the APS; the science blogger, Dr. Isis, her fans and Seed Magazine; and the Central Nervous System Section. This year Theodore A. Brown, Univ. of California, Davis, Lisa P. Chu, Williams College; Amanda Crooks, Univ. of North Carolina, Charlotte; Trent D. Evans, Univ. Wisconsin, Madison; Benjamin W. Iliff, Williams College; Alexander Samocha, Univ. of Pennsylvania; Kevin M. Sheehan, Wright State Univ.; Christine E. Song, Univ. of California, Davis; Sarah E. Todd, The College of William and Mary; and Jamie K.S. Wagner, Oberlin College were selected as David S. Bruce Awardees.



**APS President Gary Sieck presents Francis Belloni, outgoing Communications Committee Chair, with a certificate of appreciation.**



**APS President Gary Sieck presents Nansie McHugh, outgoing Career Opportunities in Physiology Committee Chair, with a certificate of appreciation.**



**APS President Gary Sieck presents John Cuppoletti, outgoing Chair of the Cell and Molecular Physiology Section, with a certificate of appreciation.**





**APS President Gary Sieck presents Barbara Goodman, outgoing Councillor, with a certificate of appreciation.**



**APS President Gary Sieck presents Joey Granger, outgoing Councillor, with a certificate of appreciation.**



**APS President Gary Sieck presents David Pollock, outgoing Councillor, with a certificate of appreciation.**

## **N. Caroline tum Suden/Frances Hellebrandt Professional Opportunity Awards**

The recipients of the Caroline tum Suden awards are selected by the Women in Physiology Committee chaired by Jane Reckelhoff. This year's thirty-six awards were made possible by the bequests of Caroline tum Suden and Frances Hellebrandt, who were long-time members of the Society. Awards are open to graduate students or postdoctoral fellows who

have first-author abstracts and present papers at the EB meeting. Recipients receive a \$500 check and paid registration.

## **O. Steven M. Horvath Professional Opportunity Awards**

In addition to the tum Suden awards, the Women in Physiology Committee selects the top two applications from minority candidates to be the Steven M. Horvath awardees. The identification of these individuals is a reflection

of Steven Horvath's long-term commitment to the training of minority physiologists. These awards are made possible by a bequest of the family of Steven M. Horvath, a long-time APS member. This year's awardees are Mary L. Garcia-Cazarin, West Virginia University, and Domitila A. Huber, Medical College of Georgia.

## **P. Minority Travel Fellowships**

The Minority Travel Fellowship Award program was established in 1987 for



**APS President Gary Sieck, along with Past Presidents John Hall, John West, Hannah Carey, Peter Wagner, Irving Zucker, William Dantzler, Barbara Horwitz, Allen Cowley, presents APS Executive Director Martin Frank with a certificate of appreciation.**





**APS Council:** Front Row (L-R) Jeff Sands, Usha Raj, Pam Carmines, Peter Wagner, Gary Sieck, Irv Zucker, Joey Granger, David Pollock, and Ken Baldwin; Back Row (L-R) Ida Llewellyn-Smith, Frank Powell, Barbara Goodman, Thomas Pressley, David Brooks, Gordon Mitchell, Linda Samuelson, John Chatham, J.R. Haywood, and Alan Sved.

minority physiologists, and is open to graduate students, postdoctoral students, and advanced undergraduate students, as well as minority faculty members. Funds are provided for travel and per diem to attend the annual spring meeting and APS conferences. This program is supported by the NIDDK. The intent of this award is to increase participation of pre- and post-doctoral minority students in physiological sciences. This year APS presented 35 Minority Travel Fellowship Awards.

## **Q. Porter Pre-Doctoral Fellowship Awards**

Since 1967, the Porter Physiology Development program has promoted diversity among students pursuing full-time studies toward the Ph.D. (or D.Sc.) in the physiological sciences and to encourage their participation in the APS. The Porter Fellowship provides 1-2 year full-time graduate fellowships and is open to underrepresented minority applicants who are citizens or permanent residents of the United States or its territories. Fellows are selected

by the Porter Physiology Development Committee. Since its inception, awards have been made to over 200 fellows. This year APS presented five Porter Pre-doctoral Fellowship Awards.

## **R. K-12 Minority Outreach Fellowships**

The APS K-12 Minority Outreach Fellowship seeks to foster communication between minority graduate and postdoctoral students and middle/high school minority life sciences students. Program activities, supported by a grant



**APS Section Advisory Committee:** Front Row (L-R) James Rose, Michael Sawka, John Cuppoletti, Pam Carmines, Ann M. Schreihof, Eric Delpire, David Goldstein; Back Row (L-R) Marilyn Merker, William Galey, Marshall "Chip" Montrose, William Welch, Gerald Meininger, Jane Reckelhoff, Mark Chapleau, and Scott Powers.

from the National Institute of Diabetes and Digestive and Kidney Disease (NIDDK), include year-long outreach fellowships for senior graduate students and postdoctoral fellows to visit K-12 classrooms, help conduct teacher professional development workshops, and attend scientific meetings.

Over the 2010-2011 Fellowship year, students will attend EB 2010 and 2011, work with the Frontiers in Physiology Research Teachers, carry out two classroom visits, participate in PhUn Week, and attend conferences for minority students in the fall. The 2010 Fellows are Jessica Ibarra, University of Texas Health Science Center San Antonio, and Annie Whitaker, Louisiana State University Health Sciences Center.

## **S. International Early Career Physiologist Travel Awards**

The International Early Career Physiologist Travel Award program was established in 2008 for graduate students, post-doctoral fellows and junior faculty members who work outside the United States. The intent of this award is to assist with travel expenses that international early career physiologists while in attending the EB Meeting to present their work. This year's awardees are Mohammed Abdulla, University Sains Malaysia, Malaysia; Valdir Braga, Federal University of Paraiba, Brazil; Timothy Etheridge, University of Nottingham, United Kingdom; Andres Hernandez, Karolinska Institute, Sweden; Daria

Ilatovskaya, Institute of Cytology, Russian Academy of Sciences, Russia; Elizabeth Oliveira-Sales, Federal University of Sao Paulo, Brazil; Ahmed Oloyo, University of Lagos, Nigeria; Bethan Phillips, University of Nottingham, United Kingdom; Sophie Yeo, University of Melbourne, Australia; and Anna Zetterqvist, Lund University, Sweden.

## **T. Undergraduate Summer Research Fellowships**

In 2000, the APS Council approved funds to develop and support summer research fellowships for undergraduate students. The program was initiated in recognition of the importance of undergraduate research experience leading to a career in physiology research. Twenty-four fellowships were made to support full-time undergraduate students to work in the laboratory of an established physiologist. This year's recipients are: John Alexander, Univ. of Cincinnati; Benjamin Barnes, Univ. of Kentucky; Kristen Campbell, Appalachian State Univ.; Katie Collette, Univ. of North Dakota; Emily Cousens, Univ. of Arizona; Trent Evans, Univ. of Wisconsin, Madison; Immaculate Foy, Univ. of Kentucky; Jessica Gatt, Univ. of Michigan; Emily Hall, Univ. of Chicago; Alaina Heltemes, Univ. of Minnesota, Duluth; Shelly Hwang, Dickinson College; Benjamin Iliff, Williams College; Christine Iseminger, Univ. of North Dakota; Jenna Klein, Michigan Tech Univ.; Omar Lara Garcia,

Universidad Veracruzana; Erin Merrell, Skidmore College; Geoffrey Miller, Wartburg College; Stephanie Podolski, Univ. of New England; Daniel Sinden, College of William & Mary; John Stewart, Pacific Union College; Anton Temple, South Dakota State Univ.; Sarah Todd, College of William & Mary; Dawnette Urcuyo, Gettysburg College; and Lloyd Wilson, Univ. of Utah.

## **U. Recognition of Outgoing Committee Chairs**

Sieck recognized the outgoing committee chairs and thanked them for their service to the APS. The outgoing chairs are Vernon Bishop, Chair of the Senior Physiologists Committee, Francis Belloni, Chair of the Communications; Timothy Musch, Chair of the Animal Care & Experimentation Committee; Nansie McHugh, Chair of the Career Opportunities in Physiology Committee, and Michael Portman, Chair of the Public Affairs Committee.

## **V. Recognition of Outgoing Section Chairs**

Gerald Meininger, Chair of the Cardiovascular Section, James Rose, Chair of the Endocrinology and Metabolism Section, John Cuppoletti, Chair of the Cell and Molecular Physiology Section, David Goldstein, Chair of the Comparative and Evolutionary Physiology Section, and Michael Sawka, Chair of the Environmental



**APS Presidents: Kneeling in front Martin Frank (Executive Director); Front Row: John West, John Hall, Irving Zucker, Gary Sieck, Hannah Carey, Shu Chien, Allen Cowley; Back Row: James Schafer, Barbara Horwitz, William Dantzler, Peter Wagner, John Williams, Jerry DiBona, Walter Boron, L. Gabriel Navar, Joey Granger.**





**Past President Irving Zucker presents Paul Janssen with the Henry Pickering Bowditch Award.**



**President Gary Sieck presents Jeffrey Fredberg with the Walter B. Cannon Memorial Award.**



**Executive Director Martin Frank presents Debra Anne Schwinn with the Walter C. Randall Award.**

& Exercise Physiology Section complete their terms at the close of the EB10 meeting. Sieck thanked them for their service to their sections and to APS.

## **W. Recognition of Outgoing Councillors**

Councillors Barbara Goodman, Joey Granger, and David Pollock will complete their terms at the close of this meeting. Sieck thanked them for their service to the Society.

## **X. Recognition of Martin Frank**

Sieck presented APS Executive Director Martin Frank with a plaque for his 25 years of service as the Executive Director. Sieck said, "2010 marks the 25th anniversary of Marty Frank as Executive Director of the APS. Please join me in acknowledging Marty's years of dedicated service for our society. I would like to invite all past presidents of the APS to come forward and help present this plaque acknowledging Marty's 25 years of service."

## **Y. Recognition of Past President Irving Zucker**

Sieck said that "This is marks the end of Dr. Irv Zucker's service to the APS as past president. I have known Irv for nearly 40 years since I was a graduate student at the University of Nebraska Medical Center. It has been a great privilege for me to serve with Irv the past two years on the Executive Cabinet. Please join me in thanking Irv for all his service to the APS."

## **Z. New Business**

No new business.

## **VII. Passing of the Gavel**

Sieck then passed the gavel to **Peter Wagner**, University of California, Irvine, incoming President of the American Physiological Society.

Wagner, upon accepting the gavel, said the "he was asked to say something about Gary and his presidency. Gary has been an outstanding President, and he will be remembered for controlling the Council with a velvet fist and iron glove! He has done a

superb job and taught me lessons about running meetings. Thank you Gary for all your service."

Before closing the meeting, Sieck said "Thank you for the opportunity to serve as the 82nd president."

There being no new business, the meeting was adjourned at 7:00 PM, April 28, 2010. ❖

*Peter Wagner  
President-Elect*

## **Missed Experimental Biology 2010?**

### **OR**

## **Attended EB2010 but missed APS trainee/education sessions?**

**You can still attend them!**

**Listen to the talks and  
view the PowerPoint presentations for:**

### **Refresher Course on Cardiovascular Physiology**

[www.the-aps.org/education/  
refresher/CVPhysiology.htm](http://www.the-aps.org/education/refresher/CVPhysiology.htm)

### **Career Symposium Government Careers in Physiology Revealed**

[www.the-aps.org/careers/  
careers1/EBSymposia/EB2010  
symposium.htm](http://www.the-aps.org/careers/careers1/EBSymposia/EB2010symposium.htm)

### **Trainee Symposium Publish, Not Perish: How to Survive the Peer Review Process**

[www.the-aps.org/trainees/  
Symposia/2010symposium.htm](http://www.the-aps.org/trainees/Symposia/2010symposium.htm)

### **Mentoring Symposium A Primer for the New PI: How to Herd Cats AND Keep Your Boss Happy**

[www.the-aps.org/careers/  
careers1/mentor/workshop/  
10wrkshp.htm](http://www.the-aps.org/careers/careers1/mentor/workshop/10wrkshp.htm)



## Clark Receives Third Early Career Professional Service Award

The APS Trainee Advisory Committee is pleased to announce that Catharine G. Clark, graduate student in the Department of Veterinary Biomedical Sciences and Dalton Cardiovascular Research Center, Univ. of Missouri-Columbia, has been selected as the third recipient of the APS Early Career Professional Service Award. The Committee was extremely impressed with Clark's record of commitment to public service and education, especially in the area of working to increase the public's awareness of physiology and, specifically, the brain. They especially appreciated her involvement with a wide range of ages, from middle school students through the elderly.

Clark organized and implemented the first "Brain Awareness Week" within the Univ. of Missouri neuroscience community and area middle schools. The event is now in its third year at the university and continues to grow in popularity and size.

Clark searched out members of the Science Education Department and worked with them to understand how students make decisions regarding the controversial topic of stem cell research. The results from this study have been accepted for publication and information from this study will be used to change both the instruction and the assessment in courses on stem cells.

For the elderly, Clark designed and presented a seminar regarding the brain and memory entitled: "What to remember about memory loss" at several retirement homes, as well as the public library. The resounding success of this seminar led her to create an entire series of seminars devoted to physiological topics of concern to the elderly, such as Alzheimer's disease and effects of aging on the brain.

She has also been highly active with the Graduate Student Association and Graduate Professional Council, where she served as an Ambassador for her department. She also is an active member in the Health Sciences Graduate Student Association.

Clark was honored at the Experimental Biology 2010 meeting during the APS Business Meeting on Tuesday, April 27. She will write an article for a future issue of The Physiologist about professional service.

APS congratulates Ms. Clark on this well-deserved honor. ❖

## Laughlin Receives Schmidt-Nielsen Distinguished Mentor and Scientist Award

The APS Women in Physiology Committee hosted a reception at Experimental Biology 2010 to honor M. Harold Laughlin, Curators' Professor and Chair, Department of Biomedical Sciences, College of Veterinary

Medicine, Univ. of Missouri-Columbia, who was selected as the seventh recipient of the Bodil M. Schmidt-Nielsen Distinguished Mentor and Scientist Award.

More than 100 trainees, EB awardees, and colleagues gathered to celebrate the award and hear Laughlin's award lecture entitled, "Mentoring as a Player Coach." The talk will be published in a future issue of The Physiologist and posted on the APS Mentoring web site (<http://www.the-aps.org/career>). Dr. Grant H. Simmons (Univ. of Missouri-Columbia), who coordinated the nomination of Laughlin for the award, was present to introduce him. The award was presented to Laughlin by Jane F. Reckelhoff, Chair of the Women in Physiology Committee, and Gary C. Sieck, President of the APS.

Laughlin received his PhD at the Univ. of Iowa. He did his postdoctoral training also at the Univ. of Iowa and then at the USAF School of Aerospace Medicine. In 1980, he was hired as an Assistant Professor of Physiology at Oral Roberts Univ. Medical School in Tulsa. In 1985, Laughlin moved to the Department of Biomedical Sciences, College of Veterinary Medicine, and the Dalton Cardiovascular Research Center at the Univ. of Missouri-Columbia. In 1987 he received a joint appointment to the Department of Physiology in the School of Medicine at the Univ. Laughlin was named interim chair of the Department of Biomedical Sciences in 1992 and then Chair in



Catharine G. Clark (center) is presented with the Early Career Professional Service Award by President Gary C. Sieck and Erica A. Wehrwein, Chair of the Trainee Advisory Committee.



M. Harold Laughlin (center) is presented the 2010 Schmidt-Nielsen Distinguished Mentor and Scientist Award by President Gary C. Sieck and Jane F. Reckelhoff, Chair of the Women in Physiology Committee.



**APS President Gary Sieck and Steven Horvath's sons Peter and Steven present Mary L. Garcia-Cazarin and Domitila A. Huber the Steven M. Horvath Professional Opportunity Awards.**

1994. In 2007, he received the title of Curator's Professor.

Laughlin's success as a mentor has been through three primary roles: as an instructor, as a mentor, and as chair of the Department of Biomedical Sciences at the Univ. of Missouri. As an instructor, Laughlin serves as a role model to both students and faculty alike. Despite being Chair, Laughlin continues to teach Veterinary Anatomy and Physiology courses on a voluntary basis because he considers teaching an integral component to the scientific process, for both student and instructor. As a mentor, Laughlin has worked for over 20 years to provide resources and foster independence in aspiring graduate students, veterinary residents, and postdoctoral fellows. A central component of his mentoring strategy is unwavering support of his trainee's individual goals. Consequently Laughlin trainees have been successful in careers outside of research, including teaching, medical practice, and administration. As chair of the Department of Biomedical Sciences, Laughlin has had the unique opportunity to directly impact faculty development. He implemented an individualized faculty mentor panel that advises each new faculty member as they navigate the challenges for new faculty within and outside of the Univ.

This was especially evidenced by the large number of current and former mentees attending the reception in Laughlin's honor.

APS members are encouraged to nominate members for the 2011 Bodil Schmidt-Nielsen Award. For more information, see the APS website (<http://www.the-aps.org/awards/society/schmidt-nielsen.htm>). Application deadline is September 15, 2010. ♦

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

Graduate students and postdoctoral fellows who were first authors on an abstract submitted to Experimental Biology 2010 in Anaheim, CA were eligible to apply for the Caroline tum Suden/Frances A. Hellebrandt Professional Opportunity Award. A fund established to honor the memory of Steven M. Horvath, a distinguished APS member, was be used to provide support for the top two underrepresented minority awardees.

The APS Women in Physiology Committee chaired by Jane F. Reckelhoff, at the Univ. of Mississippi Medical Center, selected 38 awardees from a pool of 140 applicants. Applicants were required to be APS members (either student or regular) and could not have won the award previously as a graduate student if currently a graduate student or as a post-

doctoral fellow if currently a postdoctoral fellow. Applicants were chosen based on the quality and novelty of their abstracts, and letters written by the candidates describing their career goals, research, and why they were particularly deserving of the award. Each awardee received \$500, a certificate of recognition, and complimentary advanced registration for the EB 2010 meeting.

Awards were presented during the APS Business Meeting. Awardees were:

Shinichi Asano, West Virginia Univ.; Megan Bardgett, Univ. of Kentucky; Nadejda I. Bozadjieva, Univ. of Minnesota Medical School - Duluth; Aaron Bunker, Univ. of Missouri; Pablo D. Cabral, Henry Ford Hospital; Darren P. Casey, Mayo Clinic; Hye-hun Choi, Medical College of Georgia; Silvana Constantinescu, Univ. of Southern California; Jonathan S. Cook, Pennsylvania State Univ. College of Medicine; Patrick L. Crosswhite, Univ. of Oklahoma Health Sciences Center; Mary L. Garcia-Cazarin,\* Univ. of Kentucky; Nathalie Gaudreault, Univ. of California, San Francisco; Shea Gilliam-Davis, Wake Forest Univ. School of Medicine; Anne Gingery, Univ. of Minnesota Medical School - Duluth; Catherine G. Howard, Tulane Univ.; Domitila A. Huber,\* Medical College of Georgia; Annet Kirabo, Univ. of Florida College of Medicine; Brett S. Kirby, Colorado State Univ.; Peter M. MacFarlane, Univ. of Wisconsin, Madison; Louis M. Mattar, Univ. of Western Ontario; Belinda H. McCully, Oregon Health and Science Univ.; Carlo J. Milani, Tulane Univ.; Nicole L. Nichols, Univ. of Wisconsin; Misun Park, Univ. of Medicine and Dentistry of New Jersey; Hae Jeong Park, Emory Univ.; Sarah J. Parker, Medical College of Wisconsin; Paulo W. Pires, Michigan State Univ.; Emrush Rexhaj, Centre Hospitalier Univ. Vaudois; Matthew M. Robinson, Colorado State Univ.; Bruno T. Roseguini, Univ. of Missouri - Columbia; Christopher E. Schwartz, Michigan Technological Univ.; Emma L.B. Soldner, Univ. of Minnesota Medical School-Duluth; Sarah F. Stream, Michigan Technological Univ.; Aaron J. Trask, Nationwide Children's Hospital; Stéphane Vinit, Univ. of Wisconsin, Madison; Kathryn C. Welliver, Des Moines Univ.; Liang Xiao, Univ. of Nebraska Medical Center; Ming Zhang, Temple Univ. (\*Steven M. Horvath Awardees).



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

## Undergraduate Students Receive David S. Bruce Awards for Excellence in Undergraduate Research

Undergraduate students who were first authors on an abstract submitted to Experimental Biology 2010 in Anaheim, CA were eligible to apply for the David S. Bruce Awards for Excellence in Undergraduate Research.

The award is named in honor of APS member David S. Bruce (1939 – 2000), who served as Chair of the APS Teaching Section and was a professor of physiology at Wheaton College from 1978-2000. Bruce was a dedicated physiology educator who had a particular interest in engaging undergraduate students in scientific research. Bruce not only encouraged and supported his students in participating in research, but he also regularly brought under-

graduate students to the Experimental Biology meeting, often to present their research findings.

The APS Education Committee, chaired by Thomas Pressley, Texas Tech Univ. Health Sciences Center, initially selected 24 finalists from a pool of 77 applicants. Finalists were chosen based on the quality and novelty of their abstracts and letters written by the candidates describing their career goals, research, and why they were particularly deserving of the award. The 24 finalists were:

Theodore A. Brown, Univ. of California, Davis (lab of John M. Horowitz); Lisa P. Chu, Williams College (lab of Steven J. Swoap); Amanda Crooks, Univ. of North Carolina, Charlotte (lab of Mark G. Clemens); Trent D. Evans, Univ. of Wisconsin – Madison (lab of William G. Schrage); Sara Foster, Ursinus College (lab of Beth A. Bailey); Alaina Heltemes, Univ. of Minnesota – Duluth (lab of Jeffrey S. Gilbert); Benjamin W. Iliff, Williams College (lab of Steven J. Swoap); Christine V. Iseminger, Univ. of North Dakota (lab of Cindy M. Anderson/Thomas Johnson); Jenna C.

Klein, Michigan Technological Univ. (lab of Jason R. Carter); Marco Maruggi, Univ. of California, San Diego (lab of Silvia C. Resta-Lenert); Elizabeth McClure, Williams College (lab of Steven J. Swoap); Colin Mitchell, Univ. of Cincinnati (lab of Bryan Mackenzie); Stephanie M. Podolski, Univ. of New England (lab of Markus Frederick); Alexandr J. Samocha, Univ. of Pennsylvania (lab of Jessica A. Dominguez); Suzanne M. Shdo, Chapman Univ. (lab of Kenneth D. Sumida); Kevin M. Sheehan, Wright State Univ. (lab of Lynn Hartzler); Christine E. Song, Univ. of California, Davis (lab of Chao-Yin Chen); Jennifer S. Tab, Univ. of California, Davis (lab of Barbara A. Horwitz); Jason Tanner, Univ. of Utah (lab of J. David Symons); Anton L. Temple, South Dakota State Univ. (lab of Richard D. Minshall); Sarah E. Todd, The College of William and Mary (lab of Robin C. Looft-Wilson); Jamie K.S. Wagner, Oberlin College (lab of Keith W. Nehrke); Karisa M. Wasley, Brigham Young Univ. (lab of Paul R. Reynolds); and Lloyd J. Wilson, Univ. of Utah (lab of J. David Symons).



2010 tum Suden Awardees with Jane F. Reckelhoff, Chair of the APS Women in Physiology Committee (center).





**David Bruce finalists.**

These students then made oral presentations of their posters to a subcommittee of Education Committee members and other APS members. Ten awardees were selected based on their knowledge of their research project. Each awardee received \$500 and a certificate of recognition. This year APS was pleased to receive additional support again from Dr. Isis, her ScienceBlogs readers, and SEED Magazine. In addition, support was also received from the APS Central Nervous System Section. Awards were presented by President Gary Sieck during the special APS Undergraduate Poster Session. The awardees were:

Theodore A. Brown, Univ. of California, Davis (lab of John M. Horowitz); Lisa P. Chu, Williams College (lab of Steven J. Swoap); Amanda Crooks, Univ. of North Carolina, Charlotte (lab of Mark G. Clemens); Trent D. Evans, Univ. of

Wisconsin – Madison (lab of William G. Schrage); Benjamin W. Iliff, Williams College (lab of Steven J. Swoap);

Alexandr J. Samocha, Univ. of Pennsylvania (lab of Jessica A. Dominguez); Kevin M. Sheehan, Wright State Univ. (lab of Lynn Hartzler); Christine E. Song, Univ. of California, Davis (lab of Chao-Yin Chen); Sarah E. Todd, The College of William and Mary (lab of Robin C. Looft-Wilson); and Jamie K.S. Wagner, Oberlin College (lab of Keith W. Nehrke).

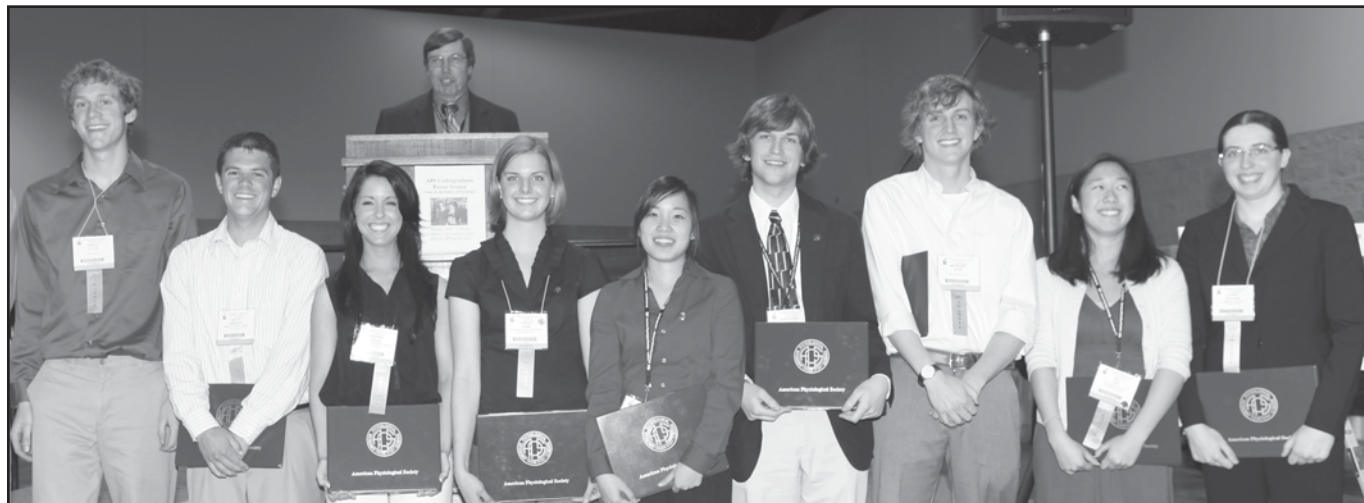
APS congratulates all these students on the quality of their research and presentations. ❖

## Graduate Student and Postdoctoral Fellow Receive Novel Disease Model Awards

Predocutorial students and postdoctoral fellows who were first authors on an abstract submitted to Experimental Biology 2010 in Anaheim, CA were eligible to apply for the Novel Disease Model Awards.

The APS Physiologists in Industry Committee chaired by Craig F. Plato, from Gilead Inc., selected a predocutorial and a postdoctoral awardee from the applicants. Awardees were chosen based on the novelty of the model and the potential utility of the system for future research related to a disease process.

The predocutorial awardee received \$500, a certificate of recognition, and complimentary advanced registration



**David Bruce Awardees with Thomas Pressley, Chair of the APS Education Committee.**



**APS President Gary Sieck and Physiologists in Industry Committee Chair Craig Plato presents the Physiologists in Industry Novel Disease Model Awards to Chad Markert and Mohammed Ali.**

for the EB 2010 meeting. The postdoctoral awardee received \$800, a certificate of recognition, and complimentary advanced registration for the EB 2010 meeting.

Awards were presented during the APS Business Meeting.

The Predoctoral Awardee was Mohammed I. Ali, Medical College of Georgia, for his abstract entitled "Myostatin gene knockout improves endothelium dependent dilation in coronary arteries of obese mice."

The Postdoctoral Awardee was Chad D. Markert, Wake Forest Univ., for his abstract entitled "Functional muscle analysis of the Tcap knockout mouse."

APS congratulates these awardees.

For information about applying for the 2011 Novel Disease Model Awards, see <http://www.the-aps.org/awards/student/NovelDisease.htm>. ❖

## Undergraduate Research Highlighted at Special EB Session

EB 2010 provided the setting for the seventh annual APS Undergraduate Poster Session. This special session highlights the contributions of undergraduate students to physiology research. Students present their poster at both their regularly scheduled poster session and the special Undergraduate Poster Session. This year it was held on Sunday afternoon and culminated with the presentation of the David S. Bruce Awards.

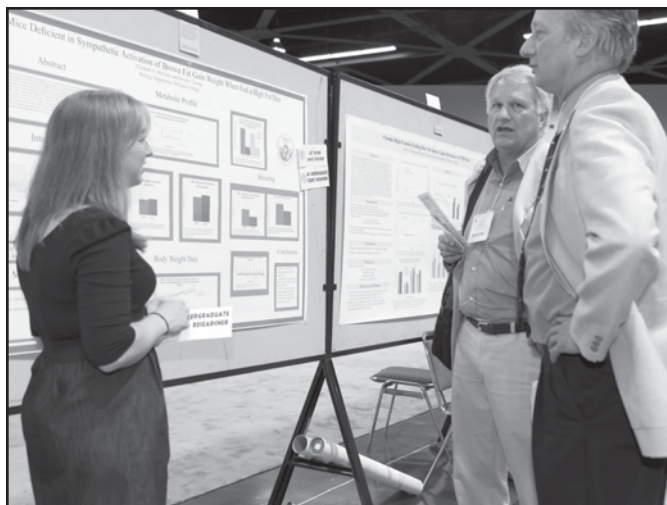
Of the 156 undergraduate first authors invited to present at the APS Undergraduate Poster Session, 116

accepted the invitation and took advantage of the opportunity to display their poster and present it to interested scientists and guests. The session not only provided undergraduate students with an opportunity to highlight their research but also to meet faculty from many graduate schools and medical schools to discuss their future plans. Approximately 200 APS members and guests were in attendance at the session, with many comments heard as to the high quality of research being presented by the students. The students and their research were highlighted again this year in a special printed program distributed during the session.

This is the fifth year that graduate departments were invited to sponsor the session and display promotional materials for their departments to those undergraduates considering graduate school. This year the departments and students arrived 30 minutes before the session to allow the students to spend time with the departments without having to leave their posters. The following schools participated: Univ. of Arizona, Physiological Sciences Graduate Interdisciplinary Program; Columbia Univ. College of Physicians & Surgeons, Department of Physiology & Cellular Biophysics; Indiana Univ. School of Medicine, Department of Cellular & Integrative Physiology; Louisiana State Univ. Health Sciences Center, Department of Physiology; Mayo Clinic College of Medicine, Physiology and Biomedical Engineering Graduate Program; Medical College of Wisconsin, Department of Physiology; Univ. of



**An undergraduate explains his research to APS Councillor, Ida Llewellyn-Smith at the Undergraduate Poster Session at EB 2010.**



**An undergraduate student discuss her research with APS members Mark Knuepfer and Jeff Osborn at the Undergraduate Poster Session at EB 2010..**



Michigan, Department of Molecular and Integrative Physiology; Michigan State Univ., Department of Pharmacology & Toxicology; Univ. of Nebraska Medical Center, Department of Cellular and Integrative Physiology; Univ. of North Texas Health Science Center, Department of Integrative Physiology; Pennsylvania State Univ., the Huck Institutes of Life Sciences; Temple Univ. School of Medicine, Department of Physiology; Vanderbilt Univ. Medical Center, Department of Molecular Physiology & Biophysics; Virginia Commonwealth Univ. School of Medicine, Department of Physiology and Biophysics; West Virginia Univ. School of Medicine, Cellular & Integrative Physiology Graduate Program.

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

APS looks forward to hosting APS Undergraduate Poster Sessions at future Experimental Biology meetings and encourages undergraduate students doing research in physiology to submit abstracts for EB, apply for the David Bruce award, and attend the poster session in 2011.

Departments who are interested in sponsoring the 2011 Undergraduate Poster Session and displaying materials for their departments are encouraged to contact Melinda Lowy of the APS Education Office (mlowy@the-aps.org; 301-634-7787). ♦



**Erica Wehrwein, Chair of the Trainee Advisory Committee, talks to undergraduates about getting the most out of attending a scientific meeting.**

## Undergraduate Summer Research Fellows Attend EB

The 2009 Undergraduate Summer Research Fellows (UGSRFs) came to the 2010 Experimental Biology meeting held in Anaheim, CA to report on their research findings from last summer.

Twenty-three of the 24 UGSRFs attended the meeting. Twenty-two of the UGSRFs were first authors on 23 abstracts submitted to the meeting. Gary Sieck, APS President, congratulated the UGSRFs on their scientific research efforts and presented them

with certificates for completing their fellowship.

For the third year, all undergraduates who had first-author posters were invited to a special Undergraduate Orientation Session. The UGSRFs were joined by the finalists for the David S. Bruce Awards for Excellence in Undergraduate Research, in addition to approximately 50 other undergraduates for the session. Thomas Schmidt, Chair of the Career Opportunities in Physiology Committee, welcomed the undergraduates and introduced the UGSRFs. Thomas Pressley, Chair of the Education Committee, introduced the Bruce finalists and reminded the undergraduates about the special Undergraduate Poster Session on



**2009 Undergraduate Summer Research Fellows at EB 2010.**



Sunday. Erica Wehrwein, Chair of the Trainee Advisory Committee, gave a presentation on attending a scientific meeting and how to get the most out of being there, both in terms of science and career talks as well as social activities. Jessica Dominguez, member of the Trainee Advisory Committee, gave a talk on poster presentations and hints for making that a positive experience. Members of the Career Opportunities in Physiology and Trainee Advisory Committees attended the session and sat among the undergraduates to offer their own advice.

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

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

## High School Students and Science Teachers Explore Physiology for a Day at EB 2010

More than 125 Anaheim area high school teachers and their students, and 14 2009 Frontiers in Physiology Fellowship Research Teachers (RTs) actively participated in the Physiology for Life Science Teachers and Students Workshop at EB 2010. The day-long workshop included a keynote presentation, a careers panel discussion, a tour of posters and exhibits, and hands-on physiology workshops for students and teachers.

Education Committee Chair, Thomas Pressley, Texas Tech Univ. Health Sciences Center, and committee member, Christopher Woodman, Texas A&M Univ., coordinated the day's events. As students and teachers arrived in the morning, they were engaged in interactive demonstrations by APS K-12 Outreach Fellows, APS members, and representatives from ADInstruments who used cardiovascular monitoring equipment. APS members included Robert Brock, West Virginia Univ.; Shea Gilliam-Davis, Wake Forest Univ.; Jessica Ibarra, Univ. of Texas Health Sciences Center, San Antonio; Johanna Krontiris-Litowitz, Youngstown State Univ.; and Dexter Speck, Univ. of Kentucky.



APS member Otto Froehlich guides students in designing an experiment to test for the effect of radius on the rate of flow.



Career Panelists, Pamela Lucchesi, Bryan Helwig, and Johana Vallejo-Elias, discuss their academic and life journeys with the student and teacher audience.



APS Education Committee Member Johanna Krontiris-Litowitz engages students with a thermoregulation activity.

The keynote talk, "Diabetes and the Heart: The Biggest Loser?" was given by APS member, Pamela Lucchesi of Nationwide Children's Hospital in Columbus, OH (presentation available at: <http://www.the-aps.org/education/K12EBWorkshop.htm>). Lucchesi presented the prevalence and chronic complications of diabetes and obesity currently in the US. She then described her cycle of research work on coronary arterial flow originating from the bedside patient to identify and define a problem, to the benchside of basic science research, and returning to the bedside through clinical research and trials. Lucchesi highlighted the relevance of her research to human health with implications on prevention, diagnosis, treatment, and prognosis. She emphasized the need for exercise to decrease the susceptibility to diabetes and cardiovascular risks.

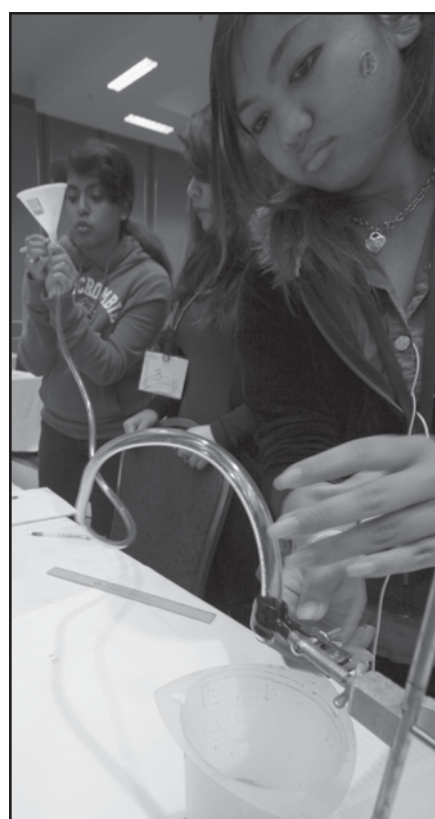
Lucchesi was then joined by APS members Bryan Helwig of the US Army Research Institute of Environmental Medicine in Natick, MA, and Johana Vallejo-Elias of Midwestern Univ. in Glendale, Arizona, as a Career Panel for the students and teachers. The panel was moderated by APS Mentor Teacher, Margaret Shain (Indiana). The panelists shared their earliest experiences of conducting science and continuing on as researchers through mentorship and opportunities presented to them. Fourteen APS members served as tour guides during lunch where they took teachers and students



**Students test viscosity and the rate of flow by using dilutions of corn syrup with red food coloring.**

through the exhibits and posters, and shared a box lunch while discussing physiology careers.

The afternoon student session was led by Dexter Speck of the Univ. of Kentucky with assistance from Barbara Goodman of the Univ. of South Dakota and the following APS members: Tom Ecay, East Tennessee State Univ.; TanYa Gwathmey, Wake Forest



**Students set up an experiment to test the effect of tube length on the rate of flow.**

Univ. School of Medicine; David Holtzclaw, Univ. of Nebraska Medical Center; Otto Froehlich, Emory Univ.; Jeffrey Osborn, Univ. of Kentucky; Annie Whitaker, LSU HSC; Sandrine Pierre, Univ. of Toledo; and Frontiers Mentor/Instructors Randy Dix (Kansas) and Becky Evans (Ohio).

Students used the "Elvis Experiments" from the APS "Physiology of Fitness" unit to learn about factors affecting flow of liquids through tubing (radius, length, viscosity).

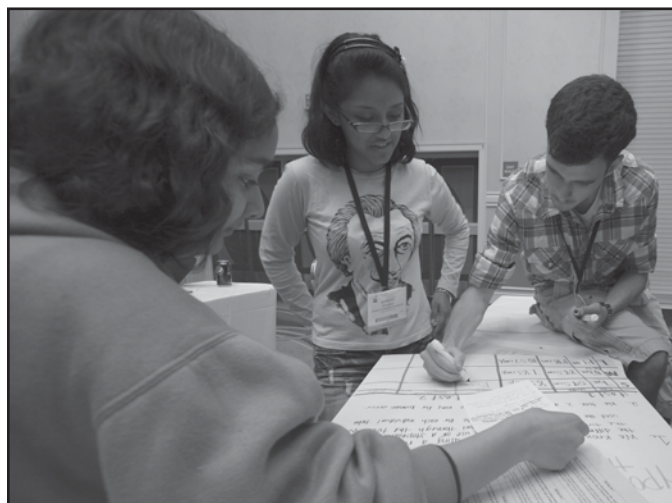
While students were conducting their experiments, their teachers (as well as the 2009 RTs) participated in a workshop activity on modeling the digestive system with common household items. Frontiers Mentor/Instructor Robert Manriquez (Louisiana) and Shain led the teacher workshop, assisted by APS Member Gregory Brower (Univ. of South Carolina School of Medicine).

As in the past, feedback from both teachers and students was very positive and students were especially excited to meet physiologists one-on-one. In addition to the APS, donations for door prizes and resources were provided by ADInstruments, the Howard Hughes

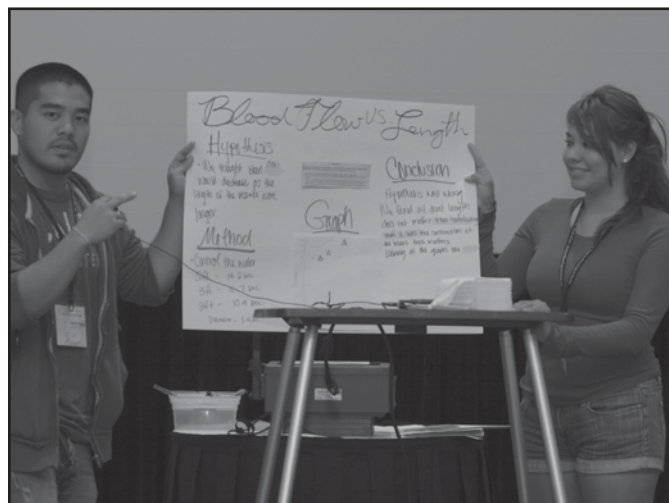


**Students record their experimental data.**





**Working in small groups, students prepare a poster on their hypothesis, experimental design, and results.**



**Students present their posters and discuss the data with other groups.**

Medical Institute, the National Association of Biology Teachers, and VWR Education. The APS Education Committee is planning to continue the workshop program for high school students and teachers at EB 2011 in Washington, DC. Photo 1 courtesy of Anne Joy. Photos 2-9 courtesy of Christopher Lossin. ❖

## 2009 Frontiers in Physiology Research Teachers and Hosts Honored at EB 2010

Seventeen Research Teacher (RT) Fellows and their APS member Research Hosts in the year-long 2009 Frontiers in Physiology Professional Development Fellowship were honored at a luncheon at EB 2010. Also honored were the Physiologists-in-Residence (PIRs): the 2009 K-12 Minority Outreach Fellow, Shea Gilliam Davis (Wake Forest Univ. School of Medicine), and Barbara Goodman (Univ. of South Dakota). In addition, the Mentor/Instructors who were past RTs were thanked: Margaret Shain (Indiana), Randy Dix (Kansas), Rebecca Evans (Ohio), and Robert Manriquez (Louisiana).

In attendance were APS Presidents and Council, Education Committee members, and the APS Executive Director and Education Office staff. Guests of honor included Barbara Alving, Director of the National Center for Research Resources (NCRR) at the NIH and Krishan Arora, former

Program Officer of the NCRR's Science Education Program Award (SEPA) program that currently funds the Frontiers fellowship program. Alving provided congratulatory remarks to the teacher fellows in the APS national program.

The RTs concluded their fellowship year by experiencing this scientific meeting, participating in the Physiology for Life Science Teachers and Students Workshop, and attending the Physiology Understanding Week Training Session. Seven RTs presented scientific posters, including Charlene Byrd (New Orleans), Diana Cost (Massachusetts), Paula Donham (Kansas), Anne Joy (Texas), Todd McDonald (Missouri), Rona Robinson-Hill (Missouri), and Carol Wheeler (North Dakota).

In addition to the RTs' seven- to eight-week research experience with their Research Host last summer to learn first-hand how the research process works, they attended the "APS Science Teaching Forum," an intensive workshop week focused on student-centered teaching methods at the Airlie Center in Warrenton, VA. The Mentor/Instructors and the PIRs facilitated sessions using APS curriculum units and explored inquiry- and equity-based teaching strategies, while demonstrating how to integrate technology into their classroom, and addressing equity and diversity in science education. Last fall, the RTs developed and enhanced their own inquiry-based lab activity for the science classroom, as well as completed



**The 2009 RT Fellows celebrate the culmination of their year-long fellowship program with the APS at an awards luncheon honoring them and their APS member Research Hosts. Not pictured: Andrea Tracy, Debbie Wallace, and Audra Brown Ward.**





The 2009 Physiologists-In Residence and Mentor/Instructors for the Frontiers program enjoy their role in leading the professional development program for the RT Fellows throughout the year. From left to right: APS K-12 Outreach Fellow Shea Gilliam Davis; Mentor/Instructors Rebecca Evans, Margaret Shain, Robert Manriquez, and Randy Dix; and past APS Councillor Barbara Goodman.



Dr. Barbara Alving, Director of the NCRR at the NIH, provides an overview of SEPA projects across the country and highlights the APS Frontiers in Physiology Professional Development Fellowship Program for science teachers.

online assignments for this fellowship.

The Frontiers in Physiology program is designed to create ongoing working relationships between research scientists and middle/high school teachers via research and in-service experiences. Additionally, the program promotes the adoption of national standards for K-12 content and pedagogical techniques among middle and high school science teachers through ongoing in-service activities developed collaboratively by teachers and physiology researchers. The APS program was recognized on April 9, 2010 as a "Model for Excellence in Science Education" by the National Lab Skills Symposium convened by the Center for Excellence in Education.

Frontiers in Physiology is sponsored by the APS, a SEPA grant from the NCRR and the National Institute of Diabetes and Digestive and Kidney

Diseases at the NIH. For additional program information visit [www.frontiersinphys.org](http://www.frontiersinphys.org), or if you are interested in hosting a teacher next summer, email Mel Limson in the APS Education Office ([mlimson@the-aps.org](mailto:mlimson@the-aps.org)). See the selection of the 2010 Frontiers Teacher Fellows in this issue.

## 2010 APS/NIDDK Minority Travel Fellows Attend Experimental Biology in Anaheim

The APS regularly awards Travel Fellowships for underrepresented minority scientists and students to attend APS scientific meetings with funds provided by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). These Fellowships provide funds for registration, transportation, meals, and lodging for travel to a meeting location, as well as complimentary meeting registration. Thirty-five Fellows attended the APS annual meeting, "Experimental Biology" (EB) in Anaheim, CA from April 24-28, 2010.

Fellows in the NIDDK Minority Travel program not only received financial support to attend these meetings, but were also provided professional guidance through pairings with APS members who served as "meeting mentors" to the Fellows for the duration of

the conference. Thanks to the time and expertise offered by mentor volunteers, Fellows were able to expand their network of professional colleagues.

During EB, Fellows attended an orientation and reception on Saturday afternoon, a networking breakfast on Monday, and a luncheon on Wednesday. During the networking breakfast on Monday, students and meeting mentors had the opportunity to interact with one another again to exchange contact information, provide career-related answers or advice, and introduce students to other possible mentors in their particular research areas and/or geographical areas. This year, the networking breakfast was well-attended and productive. Wednesday's luncheon was another great opportunity for students and mentors to solidify their interaction and discuss or clarify concepts learned and acquired during the meeting. This year, the luncheon speaker was Kelly Mack, ADVANCE Program Director, National Science Foundation. Dr. Mack's speech, "That None Shall Perish," about the origins of APS Minority Programs, the ADVANCE program, and her version of Bethune's Last Will and Testament for Physiologists, was well-received by the Fellows, Meeting Mentors, APS Council, Committee Members, and Staff. The presentation is available online at [http://www.the-aps.org/education/minority\\_prog/That%20None%20S](http://www.the-aps.org/education/minority_prog/That%20None%20S)



Kelly Mack, EB 2010 Luncheon Speaker.



**EB 2010 Minority Travel Fellows.**

<http://www.apsarchive.org/resource.cf?submissionID=4007> or in the APS Archive of Teaching Resources at <http://www.apsarchive.org/resource.cf?submissionID=4007>.

The travel awards are open to graduate students, postdoctoral students, and advanced undergraduate students from minority groups underrepresented in science (i.e., African Americans, Hispanics, Native Americans, and Pacific Islanders). Students must be US citizens or permanent residents. The specific intent of this award is to increase participation of pre- and post-doctoral minority students in the physiological sciences. For more information, contact Brooke Bruthers in the APS Education Office at 301-634-7132 or [bbruthers@the-aps.org](mailto:bbruthers@the-aps.org), or visit [http://www.the-aps.org/education/minority\\_prog/stu\\_fellows/minority\\_tv/ov\\_mt.htm](http://www.the-aps.org/education/minority_prog/stu_fellows/minority_tv/ov_mt.htm) on the APS web-site.

#### **APS Travel Fellows at Experimental Biology 2010:**

Karina Acevedo-Torres, San Juan Bautista School of Medicine; Jinae N. Bartlett, California State Univ., Long Beach; Layne M. Bettini, Univ. of New Mexico; Paulo S. Caceres, Henry Ford Hospital; Leroy L. Cooper, Brown Univ.; Mark W. Cunningham, Univ. of Florida College of Medicine; Lincoln P. Edwards, Loma Linda Univ.; Zarine I. Garcia, Colorado State Univ.; Luther Gill, Univ. of Florida; Shea Gilliam-Davis, Wake Forest Univ. School of Medicine; Marcela Herrera, Henry Ford Hospital; Jessica M. Ibarra, Univ. of Texas Health Science Center, San

Antonio; Brandiese E. Jacobs, Univ. of Maryland, Baltimore; Erin M. Keen-Rhinehart, Susquehanna Univ.; Aisha I. Kelly-Cobbs, Medical College of Georgia; Rasheed A. Lawal, Univ. of Louisville; Anna K. Leal, Penn State College of Medicine; Santiago Lorenzo, Univ. of Oregon; Brandon R. Macias, Texas A&M Univ.; Tanecia R. Mitchell, Univ. of Arkansas for Medical Sciences; Clintoria L. Richards-Williams, Emory Univ./Atlanta VA Medical Center; Edelmario Rivera-De Jesús, Ponce School of Medicine; Natalie Rodriguez, Arizona State Univ.; Alexandr J. Samocha, Univ. of Pennsylvania; Ana Q. Silva, Medical College of Georgia; Rebecca A. Torres, Univ. of South Alabama; Carmen M. Troncoso Brindeiro, Univ. of Nebraska Medical Center; Johana Vallejo-Elias, Midwestern Univ.-Arizona Osteopathic School of Medicine; Jose P. Vazquez-Medina, Univ. of California, Merced; Jose A. Viscarra, Univ. of California, Merced; Kedra Wallace, Univ. of Mississippi Medical Center; Annie Whitaker, LSUHSC-NO; Nichelle C. Whitlock, Univ. of Tennessee, Knoxville; Holly C. Williams, Emory Univ.; and Alencia V. Woodard-Grice, Vanderbilt Univ.

#### **APS Meeting Mentors at Experimental Biology 2010:**

R. Brooks Robey, Dartmouth/WRJ-VAMC; Alice R. Villalobos, TAMU Dept Nutrition & Food Science; Marcela Herrera, Henry Ford Hospital; Otto Froehlich, Emory Univ. School of Medicine; David P. Brooks, Johnson &

Johnson; Carole Liedtke, Case Western Reserve Univ.; Margaret Brosnan, Memorial Univ. Newfoundland; Nikki Jernigan, Univ. of New Mexico; Melissa L. Bates, Univ. of Wisconsin; Rudy Ortiz, Univ. of California, Merced; Eugene E. Nattie, Jr., Dartmouth Medical School; James B. Bassingthwaite, Univ. of Washington; Adebawale (Ade) Adebisi, Univ. of Tennessee Health Sciences Center; Heather Drummond, Univ. of Mississippi Medical Center; Ryan A. Harris, Medical College of Georgia; Ryan Pelis, Novartis Pharmaceuticals Corp.; Helmut Gottlieb, UIW Feik School of Pharmacy; Nina Stachenfeld, Yale Univ. School of Medicine; Norma Ojeda, Univ. of Mississippi Medical Center; Johana Vallejo-Elias, Midwestern Univ./Arizona Osteopathic School of Medicine; Carmen M. Troncoso Brindeiro, Univ. of Nebraska Medical Center; Declan McCole, Univ. of California, San Diego; Carmen Hinojosa-Laborde, US Army Institute of Surgical Research; Clintoria L. Richards-Williams, Emory Univ./Atlanta VA Medical Center; Kendra J. Greenlee, North Dakota State Univ.; George A. Brooks, Univ. of California, Berkeley; Gina C. Schatteman, Univ. of Iowa; Margarita C. Curras-Collazo, Univ. of California, Riverside; Wing-Kee Lee, Univ. of Witten/Herdecke; Erin M. Keen-Rhinehart, Susquehanna Univ.; and Patricia E. Molina, Louisiana State Univ. Health Sciences Center. ❖



## Postdoctoral Position

**Postdoctoral Position:** Available in the lab of Chuanqing Ding, MD, PhD., at the Univ. of Southern California's USC-Doheny Eye Institute Ocular Surface Center, and Department of Cell & Neurobiology. The successful candidate will conduct NEI/NIH-funded research projects to investigate the physiological and molecular mechanisms of the lacrimal gland duct system, and its involvement in dry eye. Using microperfusion and ex vivo/in vivo multiphoton confocal fluorescence microscopy techniques, the candidate will identify and characterize the ionic transporters and pumps, and aquaporins in the lacrimal duct system, and their functional significance. Candidate must have a doctoral degree (PhD, MD, etc) in a biomedical related field and have background in small animal (such as rabbit and mouse) research. Prior experience with microdissection and microperfusion in ionic transporter physiology studies, immunofluorescence, multiphoton laser scanning confocal microscopy, PCR, in situ hybridization, western blotting, and ELISA is preferred. Candidate should be able to work independently, be motivated, and conduct a project on his/her own, and have the ability to attend to detail. The candidate is expected to: 1) participate in planning, designing, and conducting basic research under the direction of the PI; 2) analyze research data and provides interpretations; 3) contribute to the development of research documentation for publication. Salary is commensurate with experience and qualification. USC is an equal opportunity/affirmative action employer. Interested individuals should send their current CV by email, and the names and contact information (including email) of three references to Dr. Chuanqing Ding at [cding@usc.edu](mailto:cding@usc.edu).

## Faculty Positions

**Assistant Professor:** Department of Cell Physiology and Molecular Biophysics, Texas Tech Univ. Health Sciences Center, Lubbock, TX. Position Description: develop and/or maintain an independent program of research with external funding in the areas of

cell physiology and/or molecular biophysics; plan, evaluate, and revise curricula, course content and course materials/methods of instruction; prepare and deliver lectures to medical and graduate students; compile, administer and grade examination; direct the research of other teachers or graduate students working for advanced academic degrees; conduct research in the field of membrane proteins and publish findings in professional journals; keep abreast of developments by reading current literature and participating in professional conferences; serve on faculty committees. Position Requirements: MD or PhD (foreign equivalent) in Biological Sciences, Physiology or Biophysics plus three years experience as a postdoctoral trainee (associate or research fellow) with an emphasis on research in physiology or biophysics and at least two first-author publications in high-impact journals and at least two invited presentations or seminars at national meetings or first-tier universities. Any suitable combination of education, training or experience is acceptable. Please submit a current CV, an outline of your research program, and the names and addresses of three or more potential referees to Thomas A. Pressley, PhD, Chair of the Search Committee, through TTUHSC's website (<http://jobs.texastech.edu>), requisition number 81648. Application materials must be received by 07/26/2010. For questions regarding the online application process please call Human Resources Recruiting, 806-743-2865. TTUHSC is an EEO/AA/ADA employer.

**Assistant, Associate, and Full Professor:** The Morehouse School of Medicine Department of Physiology is soliciting applications from excellent candidates in the field of physiology to join our faculty at the assistant, associate or full professor level. We are seeking to expand upon our current strengths in cardiovascular physiology, reproductive endocrinology, renal physiology and cancer biology. In addition, we are seeking new faculty with expertise in emerging areas of interest such as: the physiology of obesity, metabolism or computational integrative physiology. A PhD or MD in a related field and at least two years of postdoctoral training or independent university research experience are

required. The ideal applicant should have demonstrated success in obtaining support for independent research projects and a strong publication record. The successful candidate should also have excellent teaching skills that will contribute to the department's educational programs. Please address inquiries to: Gary H. Gibbons MD, Chairman, Department of Physiology, Morehouse School of Medicine, 720 Westview Drive, Atlanta GA 30310. Phone: 404-752-1680; Email: [ggibbons@msm.edu](mailto:ggibbons@msm.edu). Applicants should submit their curriculum vitae, at least three references for letters of recommendation and statements of research and teaching interests to the Chairperson. Final determination of candidacy will be based upon a successful interview. Minorities, women, persons with disabilities, and Veterans are encouraged to apply at the Morehouse School of Medicine where there is a strong commitment to equal employment opportunity.

## Research Positions

**Senior Scientist III:** Universities Space Research Association's (USRA), Division of Space Life Sciences: <http://www.dsls.usra.edu/>. USRA, a non-profit consortium of universities, has an immediate opening for a senior level scientist in its Division of Space Life Sciences (DSLS) working at the NASA Johnson Space Center in support of the Human Health and Countermeasures Element. This is a full-time appointment to serve as the Element Scientist supporting NASA's Human Research Program. Applicants must have an advanced level degree (PhD, MD) in life sciences with an emphasis on physiology, and demonstrated success in leading research teams of a multi-disciplinary nature as evidenced by a robust history of prior grants and publications. Experience in the area of higher level science management and policy, with a background in the conceptual and analytical knowledge necessary to manage the scope and vision of research programs, is required. Applicants must be experienced in science planning and strategic initiatives relative to program goals



and be able to extend and adapt current methods and approaches to investigate critical problems. Applicant will be expected to provide oversight and guidance to scientific disciplines supporting the Human Health and countermeasure Element goals including; Pharmacology, Immunology, Nutritional Biochemistry, Muscle, Bone, Exercise, Sensori-motor and Cardiovascular Physiologies. The applicant will be expected to develop a comprehensive evaluation strategy to assess scientific and program efficacy and efficiency. Strong leadership and excellent communication skills are required. Universities Space Research Association is an Equal Opportunity Employer. Please reference job # HHC-ES, and send your cover letter and curriculum vitae to: [recruitment@dsls.usra.edu](mailto:recruitment@dsls.usra.edu). E-mailed applications are preferred. USRA DSLS; 3600 Bay Area Boulevard, Houston, TX 77058; Fax: 281-244-2006.

**Research Scientist:** The Mitochondria & Metabolism Center at the Univ. of Washington ([depts.washington.edu/mmcslu/home](http://depts.washington.edu/mmcslu/home)) is seeking a full-time research scientist to participate in research focusing on the role of cell metabolism and mitochondrial function in the pathogenesis of human diseases. Current studies concentrate on cardiac substrate metabolism, mitochondrial function, and metabolic signaling, by combining powerful NMR techniques with the ability to target the molecular regulatory mechanisms via genetic manipulation in animal models. Major responsibilities of the applicant will include performing physiological experiments and NMR spectroscopy in isolated perfused mouse hearts. There are also opportunities to participate in vivo animal research as well as cellular and molecular assays in collaboration with researchers in the center. The MMC is housed in the Univ. of Washington's Medicine's newly expanded biotechnology and medical research hub in the South Lake Union (SLU) area of Seattle. Housing over 600 scientists, the SLU complex is a cutting-edge

facility that encourages cross-disciplinary research. The candidate must have a Bachelor's degree or higher in biological or chemical sciences. Backgrounds in cardiac physiology and/or metabolism are preferred but not required. Excellent communication skills and the ability to work effectively in a collaborative environment, including the ability to think critically and solve complex problems, are required. Interested applicants should send a cover letter, CV, and contact information of three references to: Karen Liebert, Mitochondria & Metabolism Center, University of Washington, 815 Mercer St. Box 358057, Seattle, WA 98109-4714. Email: [mmcslu@u.washington.edu](mailto:mmcslu@u.washington.edu). Application via e-mail is preferred.

**Vascular Biology Research Scientist:** Cincinnati Children's Hospital Medical Center seeks an outstanding vascular biology research scientist (PhD, MD, or MD/PhD) to lead a developing research program, with joint appointment at the rank of Associate Professor or Professor in the Cancer and Blood Diseases Institute, the Division of Developmental Biology, and the Division of General and Thoracic Surgery. Candidates should possess expertise in vascular biology, angiogenesis in benign or malignant processes, and/or vascular anomalies (e.g., hemangiomas, kaposiform hemangioendotheliomas, other vascular tumors, or arterial, lymphatic or venous combined malformations) and enthusiasm for engaging with our strong translational research program. Potential areas of focus include molecular pathways and targeted molecules, animal models for drug testing, angiogenesis, lymphangiogenesis, inflammation, coagulation, flow, endothelial cell precursors, biomarker analysis, genetic profiling of lesions, and molecular imaging. Cincinnati Children's is home to the Hemangioma and Vascular Malformation Center (HVMC), a national and international referral center for the multidisciplinary care of children with vascular anomalies; the

clinical program is closely integrated with basic and translational science activities in Developmental Biology, Pulmonary Biology, Genetics, Surgery and Radiology. For more information, please contact: Denise Adams, MD; Medical Director, HMVC; Cincinnati Children's Hospital Medical Center; 3333 Burnet Ave, MLC 7015; Cincinnati, OH 45229. Phone: 513-636-4266. Email: [denise.adams@cchmc.org](mailto:denise.adams@cchmc.org).

**Graduate Research:** Positions available for several highly motivated graduate students to study exercise physiology/metabolism or biomechanics at the Univ. of Southern California, Los Angeles. In exercise physiology, our research focuses on metabolism (carbohydrates and lipids) and its regulation during exercise, with aging and in pathophysiological conditions (type I diabetes, type II diabetes and obesity). In biomechanics, our research focuses on the mechanisms humans use to generate and control momentum during multi-joint movements (athletic, ergonomic and clinical populations). Courses for doctoral students are offered within and outside of the department in areas including biomedical engineering, computer science, integrative and evolutionary biology, physiology, gerontology and statistics. Doctoral students enter one of two interdisciplinary degree programs available at USC: Biomedical Engineering (biomechanics) or Integrative and Evolutionary Biology (biomechanics and exercise physiology). All graduate students receive appointments as teaching or research assistants with stipends, health benefits and tuition remission. These may be renewed on an annual basis. Students are also encouraged to apply for graduate fellowships. If you are interested in learning more about the biomechanics program, please contact Dr. Jill McNitt-Gray at [mcnitt@usc.edu](mailto:mcnitt@usc.edu). If you are interested in learning more about the exercise physiology/metabolism program, please contact Dr. Lorraine Turcotte at [turcotte@usc.edu](mailto:turcotte@usc.edu). ♦

## Sigmund Appointed Professor and Head of Department of Pharmacology

Curt D. Sigmund, has been appointed professor and head of the Department of Pharmacology in the Univ. of Iowa (UI) Carver College of Medicine, pending approval by the Board of Regents. Dr. Sigmund, who is currently a faculty member in the departments of internal medicine and molecular physiology and biophysics, assumed his administrative responsibilities July 1, 2010. He will retain joint appointments with both departments.

Dr. Sigmund joined the UI Carver College of Medicine faculty in 1991 as an assistant professor in the Cardiovascular Division of Internal Medicine and in Molecular Physiology and Biophysics, also serving as the director of the Transgenic Animal Facility. In 1997 he was appointed associate professor, and in 2001 as professor. He is also the director of the Center on Functional Genomics of Hypertension and director of the Roy J. Carver Program of Research Excellence in the Functional Genomics of Cardiovascular Disease. In 2008 he was named the Roy J. Carver Chair in Hypertension Research. In addition to his research and teaching responsibilities, he has also served on many departmental, collegiate, UI, and national committees.

He is the recipient of numerous awards, including one of the highest honors in hypertension research—the Novartis Award for Hypertension Research from The American Heart Association's Council for High Blood Pressure Research. He is the author and co-author of many publications; serves on the editorial boards of several professional journals; and is editor-in-chief of the *American Journal of*

*Physiology: Regulatory, Integrative, and Comparative Physiology*. His research focuses on the mechanisms of blood pressure regulation using a combination of genetic, molecular, pharmacological, and physiological approaches. He is currently the primary investigator on four grants from the National Institutes of Health. Over the years he has served on many grant review panels, and was recently named as chair of the National Heart, Lung and Blood Institute Program Project Review Committee.

Dr. Sigmund received bachelor's and master's degrees in biology and a PhD in molecular and cellular biology from the State Univ. of New York at Buffalo, and completed a postdoctoral fellowship in the Department of Molecular and Cellular Biology, Roswell Park Cancer Institute in Buffalo.

## Waldrop Named Provost at University of Central Florida

The University of Central Florida has named Dr. Tony Waldrop as its new provost. A physiologist, Dr. Waldrop has served as vice chancellor for research and economic development at the University of North Carolina, Chapel Hill since 2001. Previously, Dr. Waldrop was vice chancellor for research at the University of Illinois, Urbana-Champaign (<http://news.ucf.edu/UCFnews/index?page=article&id=0024004107a42ec8a01289848d7ab00700e>).

Ahmed Ally moved to the Department of Physiology at the Univ. of Medicine and Health Sciences in Saint Kitts. Prior to this move Ally was at the Massachusetts College of Pharmacy and Health Sciences, in Boston, MA.

Michael A. Matthay is a Professor in the Department of Medicine and Pulmonary at the Univ. of California, San Francisco. Prior to this move, Matthay was on sabbatical in Paris, France.

Ole Holger Petersen is director Professor in Cardiff School of Biosciences at Cardiff Univ., Cardiff, Wales. Previously, Petersen was in the Department of Physiology at the Univ. of Liverpool, in Liverpool, UK.

Karen I. Plaut is now Director of Ag Research Programs in the Ag Administration, Purdue Univ., West Lafayette, IN. Prior to this move Plaut was Professor in the Animal Science Department of Michigan State Univ., East Lansing, MI.

Ann Marie Stowe is Research Assistant Professor in the Department of Neurology at the Univ. of Texas Southwestern Medical Center, Dallas, TX. Stowe had been a Postdoctoral Research Associate in the Department of Neurological Surgery at Washington Univ. School of Medicine, St. Louis, MO.

Margarita Teran-Garcia is an Assistant Professor at the Univ. of Illinois At Urbana-Champaign, Department of Food Science & Human Nutrition. Prior to this move, Teran-Garcia was an Associate Professor at Pennington Biomedical Research Center in Baton Rouge, LA.

## Recently Deceased Members

**Morton I. Cohen**

Bronx, NY

**Robert Galambos**

La Jolla, CA

**Leonard Share**

Memphis, TN ❖

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## A Lab of My Own: Historical Lessons and Prescriptions for the Future

Neena B. Schwartz  
New York, USA: Rodopi Press  
2010, 334 pp. illus, index, \$36.00  
ISBN: 9042027371

For any young scientist interested in a tenure track faculty position, the prospect of starting a laboratory, securing funding, and mentoring students can be daunting. In her memoir *A Lab of My Own*, Dr. Neena Schwartz, the neuroendocrine physiologist best known for her discovery of the hormone inhibin, describes managing a research laboratory during a time when few women participated in science. Dr. Schwartz is currently William Deering Professor Emerita of Biological Sciences at Northwestern Univ., author of more than 200 peer-reviewed publications, past president of the American Endocrine Society and the Society for the Study of Reproduction, and cofounder and past president of Association for Women in Science (AWiS). Reflective of her dedication to mentoring trainee scientists, Dr. Schwartz was awarded the Mentor Award for Lifetime Achievement by the American Association for the Advancement of Science in 2002. In her book, she transitions seamlessly between scientist, mentor, daughter, sister, partner and friend, demonstrating how she has been influenced by each of these different roles.

Dr. Schwartz's memoir is a candid account of the successes and struggles encountered throughout her career. It's a lesson that both serendipity and rigorous research design are important in scientific discovery. Her observation that thyroid hormone over-expression alters skeletal muscle contraction was made because the settings on a muscle stimulator were accidentally changed when an escaped laboratory animal knocked it off the table. These findings were the major focus of her PhD thesis and drove her research program for the first several years of her career. However, she attributes her discovery of inhibin to

careful, hypothesis driven physiology. Indeed, she has stated that her training as a physiologist instead of as a biochemist allowed her to design the experiments that led to inhibin's discovery (an interview with additional information on her scientific work can be found at <http://bit.ly/neenaschwartz>). Dr. Schwartz's love of science and experimental design is a clear theme of the book.

But, what might be of greater interest to early career scientists are the struggles Dr. Schwartz faced. She writes honestly and openly about being the only woman in her department at the Univ. of Illinois Medical School; Dr. Schwartz was hired as an instructor because another instructor became pregnant and the department chair did not believe it was appropriate for a pregnant woman to lecture medical students. At one of her first meetings with her department chair, she was asked to serve him tea. She recounts being appointed as the only woman department chair in her college, and being subsequently removed from the position. She also recounts being appointed as Vice President of the Endocrine Society, only to learn that the position had no real powers or responsibilities.

These experiences taught her to negotiate the scope of her responsibilities when she was asked to serve as dean at the Univ. of Illinois and again at Northwestern--- positions she used to help advance the careers of other women scientists. Indeed, there is no doubt that Dr. Schwartz has been a crusader for the inclusion of women in science. In one of the most fascinating parts of the book, Dr. Schwartz describes noticing the absence of women on study section and suing the National Institutes of Health. With members of AWiS, she filed an injunction against the NIH that prevented them from appointing new study section members until they agreed to appoint women. This action resulted in the inclusion of more women at study section.

Dr. Schwartz discusses her personal life with a similar degree of sincerity and frankness. As a lesbian forced to live closeted for much of her career, she discusses the dilemma of hosting

dinner parties for her laboratory group. After all, how was she to explain to her students and colleagues that she and her "roommate" shared an apartment with a single bedroom and single bed? Throughout her career she suffered from frequent bouts of depression and experienced the death of her mother and longtime partner Rue within a single year. It's fascinating to read the chronological timeline in the back of the book and see these deeply personal events interspersed between the awarding of a grant and the beginning of a term on study section. It's also a reminder of the humanity of those who conduct science and a lesson that even the most successful among us face personal hardship.

Overall, Dr. Schwartz's book is an engaging read. Although the discussion questions at the end of each chapter can be a distraction from the flow of the personal narrative, they also remind the reader that the author is a teacher and that she has written this book to serve a purpose. It becomes clear that Neena Schwartz has written this book to document her passion for the conduct of science, to offer insight into how to effectively build and mentor a research program, and to advocate for the inclusion of everyone in science. Her memoir reads as both a historical text documenting how far women and homosexuals in science have come, and an outline of how much progress we still need to make. She is critical of organizations like the American Physiological Society, with strong traditions of male leadership, but she is also hopeful and praises the formation of committees on women in science and the development of online mentoring resources. While graduate students and postdoctoral fellows interested in building an independent research program will likely find reassurance and pieces of valuable advice, certainly everyone could benefit from reading this story, written from a perspective that is not shared openly often enough. ♦

Melissa L. Bates  
Univ. of Wisconsin

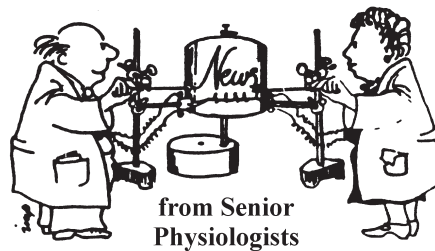


## Letter to Frank Knox

**Loring (Larry) Rowell** writes: "Thank you for your letter of March 25th containing greetings and an invitation to provide a summary of my current interests and activities. As for, 'what are you doing now?', I am preparing to go to 'our mountain' to downhill ski, which I do at least twice per week through mid-spring as I have done for 74 consecutive years. I have replaced serious climbing with bicycling, now on much smaller mountains. The balance is still with scientific activities, mainly reading and writing and some editorial work, also with general reading, oil painting or landscapes and maintenance gardening plus time in the gym. Every week is full.

"Recent scientific writing has been confined to those newer special sections in *J. Applied Physiology* (*JAP*) such as 'Historical Perspectives,' 'Viewpoint,' 'Point-Counterpoint' and so on, which have so dramatically increased active participation in this Journal and have opened it to all sorts of thoughtful commentary and debate. The controversies breed greater interest. I continue to serve as a Consultant Editor for *JAP* and to read portions of *Amer. J. Physiology, Heart and Circulation* among other APS publications. In general I feel the advances in our journals are highly important. But, on the other hand, if it is true that our students and younger colleagues read the scientific literature less and less, I fear that all of us would eventually suffer from the loss of physiology's historical heritage.

"In these letters from Seniors we are commonly asked to offer 'words of wisdom' to younger colleagues; mine would be: Don't let the aforementioned loss occur. Our history reveals a long and continuous chain of ideas that builds on the findings of our predecessors and, thereby, provides that strength that is the continuity of science. Without this historical perspective we risk needless repetition and loss of the routes toward better ideas. Might this be why journals must currently reject so many



reports of often well-executed experiments because they merely repeat previous work?

"Above all I continue to be more proud and happy about the growing strength of our journals. I feel fortunate to have served on some of their editorial boards and on the Publications Committee; these experiences made my respect for our journals and particularly for the entire publication process even greater.

"Finally, the extension of computer online access of our journals can be a boon to those who seek greater understanding of, for example, how current controversies evolved and why so many remain unresolved."

## Letter to Margaret Anderson

**Roland Blantz** writes: "I have not retired and am currently Distinguished Professor of Medicine and Head of Nephrology-Hypertension at the Univ. of California, San Diego School of Medicine. The division is constituted by approximately 40 MD and PhD faculty. I have been actively recruiting and expanding the size and expertise within the division over the past several years. I am also part time with the VA Medical Center in La Jolla CA on the UCSD campus. Since there are few basic science departments at UCSD, we have the responsibility of teaching Organ Physiology and Pathophysiology to first and second year medical students and Pharmacy graduate students. Specifically, we have no Physiology department at UCSD and for several years I served as the Physiology representative on the Faculty of Basic

Biomedical Sciences Council. I am also a member of the Bioengineering Institute. I serve on the Department of Medicine Finance committee and the Finance Contracting committee of the School of Medicine.

"I am still active in research. I am Principal Investigator on an NIH RO1, now in its 38th continuous year, a PI on the Physiology Core of an NIH O'Brien Kidney Center on Acute Kidney Injury, a PI on a VA Merit Review Grant and PI on a longstanding NIH training grant on Hypertension. I still perform experiments in kidney micropuncture in the rat when time permits. I am Co-Editor of *Current Opinion in Nephrology and Hypertension* and sit on several advisory committees of pharmaceutical companies. Topics of current research interest include 1) assessment of tubuloglomerular feedback activity and its adaptations to variations in NaCl intake, volume expansion, acute kidney injury and reductions in nephron mass; 2) mechanisms of alteration in metabolic activity in models of chronic and acute kidney disease, with particular emphasis on influences such as angiotensin II, HIF-1 alpha, heme-oxygenase, etc.; 3) influences of metabolic products of arginine on renal function; and 4) physiologic, metabolic and cell senescence and proliferation in the early diabetic kidney. In 2007 I was given the William Middleton award from the Research Service of the Veterans Administration for Excellence in Research and in 2010 I received the John Peters award of the American Society of Nephrology for achievements in nephrology research and leadership in academic medicine. I served as Councillor, Pres-Elect, President and Past President of the American Society of Nephrology from 1996 to 2003. I was elected to the Council of the International Society of Nephrology in 2009. I have no immediate plans for retirement and will be applying for a renewal of a longstanding NIH grant within the next year." ❖

## The Wine Wizard

Peter Wagner

### Whites

A few nice white wines as summer approacheth.

2009 Babich Sauvignon Blanc, Marlborough, New Zealand \$9. This is instantly recognizable as NZSB with a clean herbal gooseberry and lime nose. The palate is clean, rich and grassy with gooseberry and a nice bracing lemon finish. Just as tasty as the \$12-15 versions from other nearby vineyards.

2009 Sauvignon Republic Sauvignon Blanc, Marlborough, New Zealand \$7. How do you trump an excellent \$9 NZSB when the norm has crept up to \$13? With one at \$7. This one comes from Trader Joes—so widely available but going fast. It is more golden than the more common quite pale styles, and one whiff tells you why—very ripe, herbaceous nose. Clean, ripe, rich gooseberry and lemon palate, good acidity. Excellent now, but it will soon become vegetal—so drink within six months.

2009 Santa Barbara Landing Chardonnay \$4. Yes—\$4, again at Trader Joes. This central coast wine has an intense tropical and citrus nose and palate—AFTER the initial whiff of sulfur blows off with time and swirling. The oak is very muted, and the acidity is strong. Not thick or buttery, but clean, rich and bright with acidity, this is very good value—AFTER the sulfur has dissipated.

2009 Morgan Pinot Gris, Santa Lucia Highlands \$12. This is a well-made wine that shows stone fruit, melon and citrus on the nose and palate. Acidity is excellent, the palate is rich and viscous and the wine is clean. Good length and balance.

2009 Vina Robles “White 4” Paso Robles \$11. In spite of unheard of grapes (Vermentino for example), this blend of four grapes (adding Verdelho, Viognier and Sauvignon Blanc) has a slightly raisiny and apricot nose. The palate is also a touch raisiny, but balanced by excellent acid. There is richness and viscosity, with citrus to bal-



Peter Wagner

ance the raisins as well. Interesting, unusual and delicious.

### And some tasty Reds

2008 Amancaya Malbec/Cabernet Sauvignon, Mendoza, Argentina \$14. This 50/50 blend is deeply colored with a nose of dark plums and a touch of oak char. The palate is forward and rich albeit a bit simple with dark cherry and plum flavors. Oak and acidity are both medium, making for a soft, approachable drink-now wine. It does taste young, but fresh and very pleasant.

2008 Yalumba Cabernet/Shiraz “The Scribbler” South Australia \$14. Oz wineries are on a marketing bandwagon. Almost everything has a name “The xxxxxx” where the choice of xxxxxx is infinite. The Scribbler????? Don’t be put off though. The nose has mint and good dark berry fruit. The palate is soft and rich with dark berries and a little green bean. Acidity is very good, the palate is soft and clean and the length is excellent. I could do without the

green bean, but that subsides quickly.

2009 Layer Cake Shiraz, South Australia \$15. The nose has forward dark, blackberry fruit and a bit of sulfur that dissipated quickly with decanting and swirling. The palate is smooth, soft and rich with blackberry fruit and subdued oak. It has a long finish and the ripe fruit and moderate alcohol (14.9%) make for easy drinking. Came from Costco.

2008 Decoy Cabernet Sauvignon, Napa, \$20. Getting up there in my price world (but cheap compared to many common Napa cabernets), this has a restrained dark berry nose but excellent dark berry fruit on the palate with a touch of green pepper. Tannins, while firm, are balanced and acidity is just right. It has good length. Solid wine.

A reminder about availability of the wines that this column touts each month: obviously I found them, but that does not mean you will be as lucky. Depending on the state you inhabit and the size of the non-beer drinking public (I mean number of persons, not BMI), your local wine store and/or supermarket may have some. You should feel free to push the store owners to try and find any wine you wish for and get it in for you. If they are too lazy or law-abiding to do so, both Vintage Wines limited and San Diego Wine Company (almost next to each other on Miramar road in San Diego) are happy to ship wines as long as the laws of your state allow it. They can easily be found via Google or similar. Through their weekly tastings, they are the two stores that give me much of my material for these columns, which is the ONLY reason I mention them by name. I have NO financial interest in either. Finally, you can search the web for any given wine, and sometimes order over the web directly from the winery—although that is generally expensive, and limited to USA-produced wines mostly. Good luck. ❖





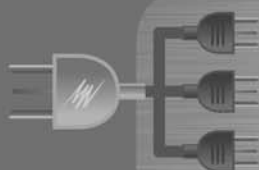
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1. Check membership category you are applying for: ☐ Regular ☐ Affiliate ☐ Graduate Student ☐ Undergraduate Student

2. Name of Applicant: \_\_\_\_\_  
Last Name or Family Name First Name Middle Name

3. Date of Birth \_\_\_\_\_ Optional: Male ☐ Female ☐  
Month Day Year

4. Institution Name \_\_\_\_\_ Department \_\_\_\_\_  
(Please do not abbreviate Institution Name)

5. Institution Street Address \_\_\_\_\_

6. City/State/Zip/Country \_\_\_\_\_

7. Home Address (Students Only) \_\_\_\_\_

8. Work Phone \_\_\_\_\_ Home Phone \_\_\_\_\_

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10. Educational Status: **IMPORTANT for STUDENTS: \*\* If you are enrolled as a graduate student for an advanced degree, or as an undergraduate student, please include the month and year you expect to receive your degree.**

Dates\*\* Degree Institution Major Field Advisor

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<input type="checkbox"/> Cell & Molecular Physiology	<input type="checkbox"/> Environmental & Exercise Physiology	<input type="checkbox"/> Respiration Physiology
<input type="checkbox"/> Central Nervous System	<input type="checkbox"/> Gastrointestinal & Liver Physiology	<input type="checkbox"/> Teaching of Physiology
<input type="checkbox"/> Comparative & Evolutionary Physiology	<input type="checkbox"/> Neural Control & Autonomic Regulation	<input type="checkbox"/> Water & Electrolyte Homeostasis

12. **DO YOU WORK IN INDUSTRY?** ☐ YES ☐ NO

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\*signature indicates that sponsor attests applicant is qualified for membership.

**Please turn over for more questions...and mailing instructions.**



## Membership Application (Continued...) **Applicant Last Name** (please print) \_\_\_\_\_

### 14. OCCUPATIONAL HISTORY [Check if student ☐

#### **Current Position:**

Dates	Title	Institution	Department	Supervisor
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#### **Prior Positions:**

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

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

### 16. DOCTORAL DISSERTATION TITLE (if applicable):

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### 17. POSTDOCTORAL RESEARCH TOPIC (if applicable):

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

☐ Mailer    ☐ Meeting (Which meeting? \_\_\_\_\_)    ☐ Colleague    ☐ Other \_\_\_\_\_

**Mail your application to:** Membership Services Department, The American Physiological Society  
9650 Rockville Pike, Bethesda, Maryland 20814-3991 (U.S.A.)  
(or fax to 301-634-7264) (or submit online at: [www.the-aps.org/membership/application.htm](http://www.the-aps.org/membership/application.htm))

**Send no money now**—you will receive a dues statement upon approval of membership.

**Approval Deadlines:** Membership applications are considered for approval on a monthly basis.

**Questions?** Call: 301-634-7171 • Fax: 301-634-7264 • E-mail: [members@the-aps.org](mailto:members@the-aps.org) • Web: [www.the-aps.org](http://www.the-aps.org)