

The Flight Safety Briefing for Your Career

Merry L. Lindsey



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One benefit of a physiology research career is that you travel: to conferences to learn new science, to universities to present seminars, and to other laboratories to learn new approaches. As a result, it is fair to say that I hear the flight safety briefing on an airplane more than the average person. It was during one of the briefings that I started to think how similar what the flight attendants

were telling me was with what I tell my trainees. It occurred to me that the flight safety briefing could be used to help prepare for a successful research career. Below are the seven main instructions, with discussion on how they can apply to your career:

- Know the rules
- Choose the right institution and program
- Know what you want
- Your mentor shows you the way
- Use all resources available
- Know when you need to help yourself first
- Prepare to be successful

Read the Safety Card: Know the Rules

Knowing the rules will help you to design a plan to accomplish your goals. For example, knowing the promotion and tenure guidelines will benefit you in developing a time line for advancement. Communication is important, not only in disseminating your science but also in discussing with your mentors what you want to accomplish and in discussing with your lab what you want them to accomplish. Your mentors can also help by telling you the unwritten rules or tips that they have acquired along the way. Not having to re-invent the wheel should save you a lot of time and effort. Networking is important for building a support group that can advance your career, and knowing the ethics involved will help you maintain the reputation you want. Another rule to follow is to keep a great lab notebook as a way to stay safe against any questions that may arise regarding your research. The best defense is a good offense,

and being prepared by doing everything right from the start will strengthen your reputation. Knowing and following the rules for your university and granting agency will keep you safe from issues that could derail your career.

Seat Belts: Choose the Right Institution and Program

Being a good fit helps you to be secure. To choose the right fit, you need to know what you need, since every place and mentor has strengths and weaknesses. For example, a large medical school where you are expected to have two large grants and support all of your salary may not be a good fit for a one-grant principal investigator. You do not need to be a perfect fit, but your views and standards, as well as your abilities, should align sufficiently enough that you can be productive and progress in both your research and your career. In some cases where the fit is not right, you will find roadblocks put up that slow down your progress.

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APS News

Dinner with a Nobel Laureate



Kristi Streeter, Joseph Santin, Mindy Engevik, and Victoria Parker, with Nobel Laureate Dr. Leland H. Hartwell

This year at Experimental Biology (2018), three Trainee Advisory Committee members, Kristi Streeter, Joseph Santin, and Mindy Engevik, as well as one Porter Physiology Development Fellow, Victoria Parker, had the unique privilege of dining with Dr. Leland H. Hartwell in sunny San Diego, California.

Hartwell received his bachelor of science from the California Institute of Technology and his PhD in biology from the Massachusetts Institute of Technology. In 2001, Hartwell received the Nobel Prize in Physiology for his research on key proteins that control cell division. Using the yeast cell model, Hartwell identified the fundamental role of

checkpoints in cell cycle control, and CDC genes such as CDC28, which controls cycle progression.

Despite his many years of research and scientific accolades, Hartwell chooses not to dwell on the past but instead looks forward into the future. Dr. Hartwell has a strong vision: one that focuses on science education. After retiring as the director of Fred Hutchinson Cancer Research Center in 2010, Hartwell has become involved with Arizona State University. He is incredibly passionate about engaging and motivating both students and teachers. One of the beliefs Hartwell carries into the classroom is that, if students are motivated by science, they will make a difference in society. This is apparent in a program he was particularly fond of called the “Science of Me,” which is designed to provide seventh grade students and teachers an authentic science experience based on an investigation of the properties of human sensory perception. The program focuses on human sensory perception as the foundation of scientific inquiry; after all, Hartwell reasons, it is through our senses that we know the world. Nearly all the science activities in the program are designed to demonstrate an established scientific principle by getting the “right” answer, thereby providing a memorable scientific experience. Through these engaging activities for students and courses designed to provide a stronger scientific background for teachers, Dr. Hartwell hopes to not only encourage the upcoming generation to pursue science, but also to train people how to look at the world through educated, scientific eyes.

In addition to inspiring us as trainees to help motivate the next generation of scientists, Dr. Hartwell also encouraged us to find our passions and pursue them whole-heartedly. The evening ended in decadent deserts and the feeling we, too, could change the world. ●

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Emergency Exits: Know What You Want

Defining what success means to you will show you where to focus your attention. This is an individual endeavor, and the sooner you take the time to define success for yourself, the sooner you will see progress toward your goals. The trick here is to be honest with yourself and not make decisions based on what you think others think you should do. Another safety reminder is to keep in mind that the closest exit may be behind you. Always have back-up plans B and C in case things do not work out as originally planned (and this is often the case). Explore all of the options available to you, since the most obvious ones may not be the best for you. Frequent discussions with your mentor, including brutally honest conversations, are needed early and often. If your mentor is not bringing up the topic, take initiative to start the conversation. You should also take advantage of resources that allow you to gauge strengths and weaknesses. For example, the National Postdoctoral Association has developed a list of six core competencies, and you can use this list to assess your competitiveness for a research faculty position or gauge where you need to spend more effort (<https://www.nationalpostdoc.org/?CoreCompetencies>). The core competencies include being an expert in concepts specific to your field; having research skills, communication skills, professionalism, leadership and management skills; and taking formal training in the responsible conduct of research. Take time during your training years to acquire these skills.

Floor Path Lighting: Your Mentor Shows You the Way

Your mentor models the way, helps you develop your guide, tailors advice to your stage, stretches you, and serves as a life-long advocate. An effective mentor shows you how to accomplish the difficult, or what you think is impossible, on the way to helping you accomplish your goals. You can use physics formulas to develop and maintain a career plan (Lindsey ML, de Castro Bras LE. The physics of an academic career. *Adv Physiol Educ* 41: 493–497, 2017. doi:10.1152/advan.00105.2017). For example, distance is velocity \times time, and any of those three variables can be adjusted as needed. A good mentor will be a good listener, will challenge you, and will develop a two-way street with you. I have a number of graduate students and pre-faculty fellows who trained with me

that I now consider colleagues and ask them for advice; it is great to see them develop in their own careers. A major phenotype of a good mentor is that he or she helps you to expand your comfort zone by continually stepping outside of it. Trainees, junior faculty, and experienced investigators should avoid complacency, since this is the easiest way to become out of date.

Life Vest: Use All Resources Available

Knowing how to find what you need to know, before you need to know it, is a trick that successful physiologists have learned. Voracious reading is common in the profiles of successful scientists, and reading includes journal articles but also the vast amount of advice and information provided on Facebook, Twitter, LinkedIn, and other social media sites. No matter your stage, your lab is your life vest; rely on them. Communication is important for this component, and using all resources available to you, including peer mentoring, will help you be productive. Having a peer mentor to spring board ideas across is an understated but highly effective resource. When I was starting out, two other assistant professors met with me weekly, and the three of us would discuss ongoing research as well as manuscripts and grants that we were writing. We all collaborated with each other, and by combining our research became stronger. I still rely on peer mentors today.

Oxygen Mask: Know When You Need to Help Yourself First

If the oxygen mask comes down, you need to put your mask on first before assisting others. There will be times when writing that manuscript and submitting that grant takes precedence over other activities. Focusing and saying *yes* only to what matters most will help you to triage activities that are not primary to your success. I must admit, I am not the best to give advice on this rule, since I find myself reviewing manuscripts and grants on many weekends when I should be recharging or working on my own submissions. A good rule of thumb is that you should give back to the scientific community the same that you request from it. That means for every manuscript or grant you submit, you should review six manuscripts or grants (assuming three reviewers for a submission and one revision).

Seats Back and Tray Tables Up: Prepare to be Successful

As you have progressed, you have hopefully received the best training possible, including primary research skills (ethics, experimental design, data analysis, presentation, and manuscript writing) and secondary skills necessary for success (lab and budget management). Use your mentors, particularly your peer mentors, to get advice along the way. This will prepare you for a successful career.

In conclusion, following the flight safety briefing will help you to plan and develop a successful career.

Acknowledgments

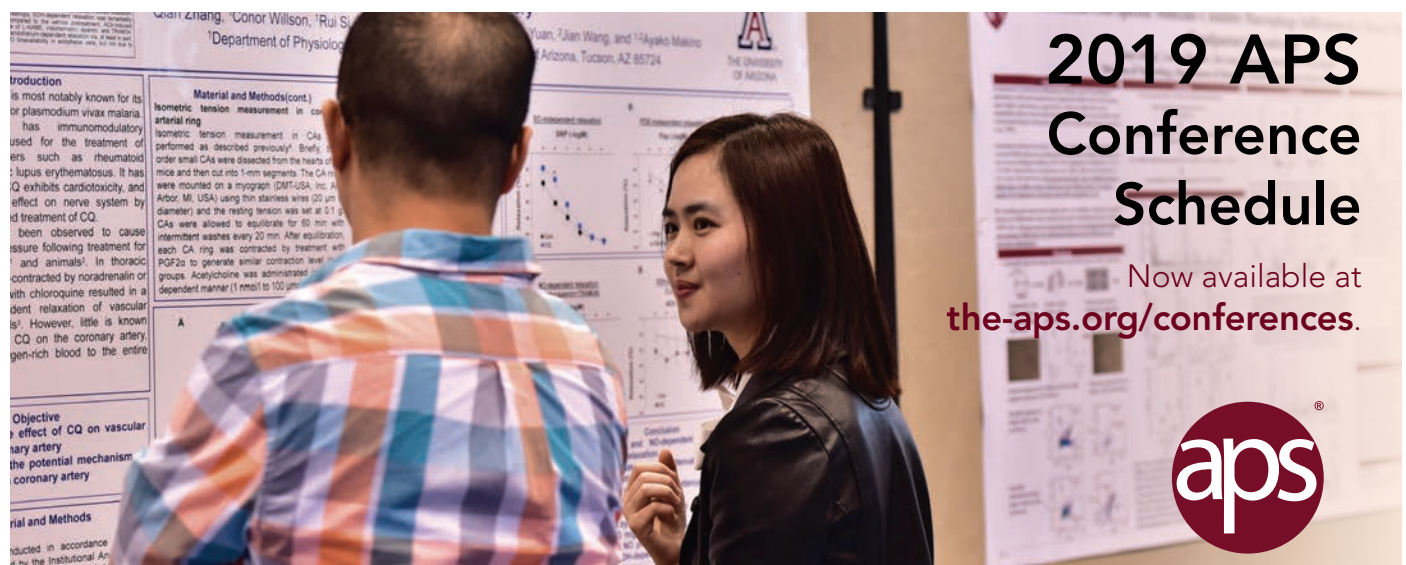
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The content is solely the responsibility of the author and does not necessarily represent the official views of the National Institutes of Health or the Veterans Administration. ●

Merry L. Lindsey Biography

Merry L. Lindsey is professor in the Department of Physiology and Biophysics and Director of the Mississippi Center for Heart Research (MCHR). MCHR is dedicated to performing cardiovascular research that involves developing multidimensional approaches to examine the mechanisms whereby the left ventricle responds to injury; applying the knowledge gained to develop therapeutic strategies to prevent, slow, or reverse the progression to heart failure; disseminating their results to the general, scientific, and medical communities; and educating the next generation of scientists. Her research is focused on extracellular matrix responses to cardiac injury and aging.

Lindsey's research has led to more than 180 publications, and she has received grant support from the American Heart Association (AHA), the Voelcker Foundation, Novartis, the Veterans Administration, and the National Institutes of Health (NIH). Lindsey serves on the editorial boards for the *American Journal of Physiology – Heart and Circulatory Physiology*, *Comprehensive Physiology*, *Circulation Research*, and *Basic Research in Cardiology* and is actively involved in the APS, AHA, and the American Society of Matrix Biology. She has reviewed grants for the AHA, NIH, and numerous international funding agencies, and has presented her research at over 100 national and international venues. Her trainees routinely publish high-impact articles, win research awards for excellence, and successfully transition to independent faculty positions.



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Education

High School Students and Science Teachers Explore Physiology at EB

San Diego-area high school teachers and their students attended the EB 2018 Physiology Workshop for Teachers and Students, Monday, April 23rd. Representatives from ADInstruments, Education Committee members, APS members, and the 2017 Frontiers Research Community Leaders (RCLs) also participated. Education Committee member Ed Merritt (Southwestern University, Grapevine, TX) was lead organizer for the daylong event.

Students began their day participating in interactive demonstrations of lab equipment used in teaching and research laboratories by Education Committee members and ADInstruments staff. APS member Allyson Hindle (Massachusetts General Hospital/Harvard Medical Center, Boston, MA) presented the keynote talk, "Exploring Extreme Cardiovascular Adaptations of the Antarctic Weddell Seals." Her talk was followed by an interactive Career Panel that included Hindle, Minority Outreach Fellows Carmen DeMiguel and Lindsey Stavola. The panel was moderated by 2017 RCL Lead Mentor Teacher Georgia Everett. Eighteen APS members served as tour guides during lunchtime visits to the exhibit hall, where they accompanied teachers and students through the exhibits and posters, and shared a box lunch while discussing physiology careers.

The afternoon student session was led by Merritt, Frontiers Mentor Teachers Georgia Everett (Western High School, Russiaville, IN), Shannon Seidl (Salpointe Catholic High School, Tucson, AZ), and several

Education Committee members. Students used the "Junkyard Digestion" activity on modeling the digestive system with common household items. This activity is available in the LifeSciTRC (<http://www.lifescitrc.org/resource.cfm?submissionID=384>). A separate session for teachers included "Using the Next Generation Science Standards," an exercise in using student-centered activities in the classroom, led by the 2017 Frontiers in Physiology Research Community Leadership Teachers.



Students enjoy using technology with AD Instruments while attending the Teacher Student Workshop at EB 2018

The students commented that one of the best parts of the event was meeting physiologists one-on-one during the lunch hour tour to the exhibit hall and scientific posters. ●

Inspire the next generation of physiologists
PhUn Week 2018
 Event Planning Deadline **October 1** Physiology Understanding (PhUn) Week **November 5-9**
 aps **PhUnWeek.org**

Teachers Complete 2017 Frontiers in Physiology Research Community Leaders Fellowship



2017 Frontiers Research Community Leaders and Mentors attend EB 2018

Frontiers in Physiology Research Community Leader (RCL) Teacher Fellows were honored at an award ceremony at EB2018 to recognize the completion of their year-long fellowship. Five middle and high school teachers from across the nation began the final year of their fellowship in April 2017. The 2-year program consisted of 1 year of intensive online professional development lessons, followed by an optional year of research and leadership training.

The online coursework included production of Bench-to-Bedside Primers that feature information on a disorder or disease, basic research that has been done on the body system affected, and current clinical trials that are being conducted with patients afflicted with the disorder. After successfully completing their online lessons, these Fellows conducted research in an APS member's lab during their summer breaks last year. Three of the teachers presented their research findings at EB2018 poster sessions. As they progressed through the year, they completed online professional development lessons for the remaining months. Lead Mentor Instructor Georgia Everett (Western High School, Russiaville, IN) was assisted by Mentor Instructor

Shannon Seidl (Salpointe Catholic High School, Tucson, AZ) in leading the online forum of leadership modules to help teachers see the potential to share what they have learned in a variety of ways. The teachers also learned the best ways to help their students learn science via the scientific method. In the final project of their fellowship year, teacher fellows presented their workshop at the Teacher Workshop for San Diego-area high school teachers at EB2018 in San Diego, CA. RCL Fellows shared program impact statements with fellow teachers and Council members describing how their science teaching methods were transformed following their summer research experience. Some of their comments:

"This is an excellent opportunity to bring research experience into your classroom for your students."

"A great opportunity that will change the way you view your science classroom and how you deliver materials. Being able to participate in real medical research is invaluable to understanding the scientific process."

"I think the networking opportunities and the inquiry learning are some of the best professional development that I have received. In addition, the research experience really fuses what we're trying to do with where our kids need to go. The approach and technical skills that are emphasized really shifts the focus of what I want my classroom to look like."

The Frontiers in Physiology program was made available by generous support from APS and an NIH Science Partnership Award (SEPA R25 OD016492).

The teachers participating in the program include:

Research Teacher/School	Research Host/Institution
Regina Cowan Mojave High School, North Las Vegas, NV	Barbara St. Pierre Schneider, PhD, RN, CNE University of Nevada, Las Vegas
Robin Cowen Army and Navy Academy, Carlsbad, CA	Alan Hargens, PhD University of California, San Diego Medical Center
Kristen LaRue University of Kentucky/STEAM Academy, Lexington, KY	Jeff Osborn, PhD University of Kentucky
Takisha Reece Sandy Spring Friends School, Sandy Spring, MD	Mark Knepper, MD, PhD NIH/NHLBI
Julie Smith Greenhills School, Ann Arbor, MI	Linda Samuelson, PhD University of Michigan

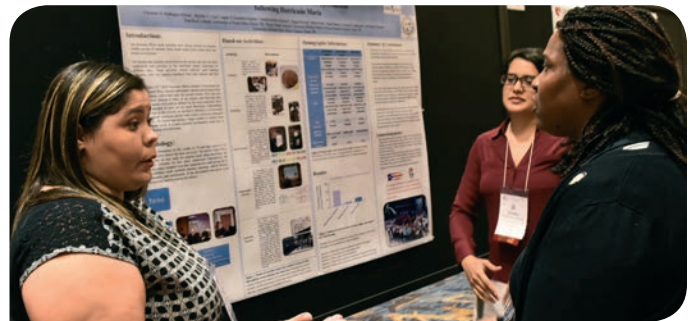
Physiology Trainees Demonstrate Outreach and Presentation Skills During PhUn Week Poster Session

During EB 2018, 25 poster presenters described strategies for outreach and hands-on physiology-related activities across primary, elementary, middle, and high school levels at the Physiology Understanding (PhUn) Week Training Session. The poster session format fosters a community of sharing best practices and grassroots outreach efforts by APS members who participate in the APS annual PhUn Week outreach program held each fall (<http://www.PhUnWeek.org>). In addition to classroom activities, topics included working with a teacher, recruiting and training of a volunteer team, and organizing special community events. The session is co-sponsored by the APS Strategic Partner ADInstruments, Inc.

Jeff Osborn (APS Education Committee chair) presented PhUn Week participation awards to Jeff Falcone (University of Louisville) for 10 years and Jason Gardner (LSU Health Science Center) and Ed Merritt (Southwestern University) for 5 years. Our dedicated members make PhUn Week a successful event.

In 2005, the APS established a member-driven outreach program, PhUn Week, with five objectives:

- Increase K-12 student interest in and understanding of physiology in their lives
- Introduce K-12 students to physiology as a possible career
- Increase K-12 teacher recognition of physiology in the curriculum
- Involve more physiologists in outreach to students and teachers in their communities
- Reach a broad base of students (grades, gender, race/ethnicity)



Trainee from Puerto Rico discusses method of outreach after Hurricane Maria hit island

From 2005 to 2017, APS members have engaged more than 100,000 students in grades pre-K to 12 during PhUn Week, which occurs the first week of November. APS members and trainees work with local schools and teachers to plan and implement meaningful interactions between physiologists, trainees, and students with their own activities or APS-provided resources (hands-on lessons, career presentations, and follow-up materials). Students have direct contact with science role models.

PhUn Week events are held across the U.S. and Puerto Rico, and take place in classrooms, museums, and university campuses, and at outdoor venues. These models provide flexibility in planning events and engaging both physiologists and trainees in different community types and countries.

The following is the EB 2018 Training Session presenter and poster title list:

Title of Poster	Presenter
K-12 Introduction to Heart Physiology and the Bionic Hand	Jessica Faulkner* Augusta University, Augusta, GA
Department Wide Outreach Program in Kinesiology and Integrative Physiology	Steve Elmer Michigan Technological University, Houghton, MI
Teaching New Words in New Ways: PhUn Week Outcomes in Elementary	Cameron Dickens*, Anne Crecelius University of Dayton, Dayton, OH
Bringing Physiology Understanding Week to Fourth Graders in State College, PA	Adwitia Dey*, James Hester, Kahina Ghanem, Donna Korzick Pennsylvania State University, College Station, PA
Celebrating PhUn Week with Physiology Stations for First Graders	Keisa Mathis University of North Texas Health Science Center, Fort Worth, TX

Title of Poster	Presenter
Spread the PhUn, not the germs! Teaching hand hygiene to 1st graders	Carmen De Miguel* University of Alabama at Birmingham, Birmingham, AL
Hands-on Learning Activities based on Cardiovascular Adaptions to Exercise during an Urban Milwaukee Classroom Visit for Physiology Understanding (PhUn) Week	Diane Munzenmaier Medical College of Wisconsin, Milwaukee, WI
PhUn at Rio Vista Elementary	Kim Henige California State University Northridge, Canyon County, CA
PhUn at the Mississippi Children's Museum	Michael Ryan University of Mississippi Medical Center, Jackson, MS
Translation of Physiological Understanding (PhUn) Week Activities to a Larger Multi-Level Group of Students in a Scientific Environment following Hurricane Maria	Christine Rodriguez-Flores* Pontifical Catholic University of Puerto Rico, Ponce, PR
PhUn Week at San Diego: Giving Students the Hands-on Experience in Physiology to Inspire the Pursuance of College and Career Pathways in the Biomedical Sciences	Angelina Hernandez-Carretero* University of California, San Diego, San Diego, CA
Increasing Cardiovascular Health Awareness during PhUn Week	Lourdes Fortepiani University of the Incarnate Word, San Antonio, TX
EMG Comparison between Sixth Grade Students	Jozelyn Rascon* University of Texas at El Paso, El Paso, TX
Middle School Females Have More Efficient Multitasking Abilities than Males	Francisco Morales* University of Texas at El Paso, El Paso, TX
Introducing Physiology of Diabetes to Middle School and High School Students	Jennifer Zuercher*, Chaya Gopalan Southern Illinois University, Edwardsville, IL
Using Bernoulli's Principle and Relationships Between Flow, Velocity and Pressure to Teach Middle School Students Concepts of Airway Ventilation and Blood Flow	Andrew Roberts University of Louisville, Louisville, KY
Interactive Activities to Learn How Our Heart and Skeletal Muscles Work for 4th and 5th Graders	Kim Huey Drake University, Des Moines, IA
Dress the Part – "You are the Scientist"	Valerie Van Ryn* Michigan State University, East Lansing, MI
PhUndamental Physiology	Ellen Gillis* Augusta University, Augusta, GA
PhUn in the Snow: 3rd Graders Learn About Exercise Physiology	Patricia Halpin University of New Hampshire at Manchester, Manchester, NH
Understanding Lung Physiology: Before and After Exercise	Patricia Silveyra Penn State University, College of Medicine, Hershey, PA
2017 PhUn Week Celebration at the University of Arkansas for Medical Sciences	Parimal Chowdhury University of Arkansas for Medical Sciences, Little Rock, AR
PhUn Week 101: New Institution, New Partners	Alvaro Gurovich University of Texas at El Paso, El Paso, TX
Using Space Physiology to Engage 6th, 7th and 8th Graders through Hands-on in Classroom Workshops	Jorge Serrador Rutgers University, Newark, NJ
Having "PhUn" Learning About Physiology in Nebraska	Erika Boesen University of Nebraska Medical Center, Omaha, NE

*Trainee participants.

Undergraduate Summer Research Fellows Attend EB

Kelly Hyndman (University of Alabama at Birmingham) and Josef Brandauer (Gettysburg College)



2017 Undergraduate Summer Research Fellows (UGSRF) with Past-President Jane Reckelhoff and President Dennis Brown at the EB 2018 meeting

This year, more than 130 undergraduate students attended the APS Undergraduate Orientation at the EB 2018 meeting. Marty Frank (former APS Executive Director), Dennis Brown (APS President), Jane Reckelhoff (APS Past-President), and Jeff Sands (APS President-elect) congratulated the students on their scientific research efforts and delivered very motivating messages on the excitement of a career in physiology. The presidents then presented award certificates to the more than 40 undergraduate summer research fellows who had received one of four APS fellowships.

The orientation began with an informal networking session with other students, members of APS leadership, and APS members from the Career Opportunities in Physiology, Trainee Advisory, and Education Committees. Next, dynamic talks were presented by Thomas Pressley (Chair of Career Opportunities in Physiology Committee), Steven Copp (Trainee Advisory Committee), and Terrence Sweeney (Education Committee). They shared background information about the APS, offered tips for having a successful meeting—including networking and asking questions at a presentation—walked through how to use the EB app, and provided instructions for the APS David Bruce Undergraduate Poster Session.

The session ended with a roundtable discussion with APS members. This provided the undergraduate attendees with the opportunity to talk in small group settings about their research experiences and future career goals. Overall, the

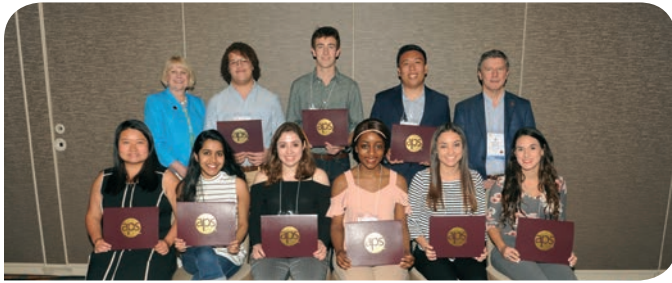
feedback was that this was a great start to their EB meeting. On Sunday, the students participated in the APS David Bruce Undergraduate Poster Session. At this session, they presented their scientific work to APS members and conference attendees. The APS Physiology Video Contest “Function Follows Form” awardees were also recognized. The session ended with recognition of the Horwitz/Horowitz Outstanding Abstract Awardees and the Horwitz/Horowitz Excellence in Research Awardees.



2017 Undergraduate Research Excellence Fellows (UGREF) with Past-President Jane Reckelhoff and President Dennis Brown



2017 Integrative Organismal Systems Physiology (IOSP) Fellows with Past-President Jane Reckelhoff and President Dennis Brown



2017 Short-Term Research Education Program to Increase Diversity in Health-Related Research (STRIDE) Fellows with Past-President Jane Reckelhoff and President Dennis Brown

Monday afternoon, the Integrative Organismal Systems Physiology (IOSP) and Short-Term Research Education Program to Increase Diversity in Health-Related Research

(STRIDE) fellows attended the Minority Travel Fellow Networking Lunch to meet with graduate students, postdoctoral fellows, and early career faculty from diverse backgrounds, as well as members of the Porter Physiology Development and Minority Affairs Committee. Fellows participated in roundtable discussions that involved topics such as “choosing a graduate school or medical school,” “networking,” and “mentor selection.”

Feedback from the students was very positive and again demonstrates that the EB meeting is an excellent opportunity to engage students and encourage career pathways with a focus on physiology. ●

Undergraduate Research Highlighted at Special EB Poster Session

Terrence Sweeney (University of Scranton) and Gladys Chompre (Pontifical Catholic University of Puerto Rico)

At EB 2018 in San Diego, CA, a record 175 undergraduate students who were first authors on abstracts presented their research to over 250 APS members and guests during the 15th annual APS David Bruce Undergraduate Poster Session. Of those students, 41 were APS Undergraduate Summer Research Fellows. This special session, organized by the Education Committee, provides undergraduate students an additional opportunity outside of the main poster sessions to present their physiology research and network with APS members. APS members in attendance noted the high quality of the research being presented by the undergraduates.

In addition to presenting their work, undergraduates took advantage of opportunities to explore the offerings of graduate programs from across the country. APS thanks the growing number of institutions and programs that sponsor the David Bruce Undergraduate Poster Session for providing this professional development opportunity as they interact with and recruit the next generation of doctoral students and future physiologists. Graduate programs from the following institutions served as informational resources at this year's session:



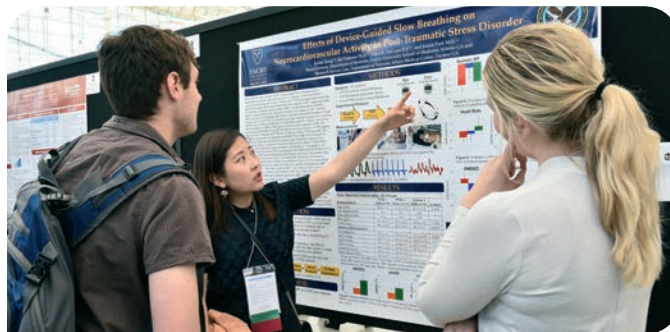
Students line up to receive information about graduate school opportunities

- Des Moines University, Master of Science in Biomedical Sciences
- Louisiana State University Health Sciences Center New Orleans, Physiology Graduate Program and Postbaccalaureate Research Education Program (PREP) in Biomedical Sciences
- Louisiana State University Health Shreveport, Molecular & Cellular Physiology
- Mayo Clinic Graduate School of Biomedical Sciences, Biomedical Engineering & Physiology Program
- Medical College of Wisconsin, Department of Physiology
- Meharry Medical College, Physiology Graduate Program
- Saint Louis University School of Medicine, Graduate Programs in Biomedical Sciences



Undergraduate Research Excellence Fellow, Maleeha Ahmad presents her research to an APS member

- Texas A&M University, College of Medicine, Graduate Program in Medical Sciences
- Tulane University School of Medicine, Graduate Programs in Biomedical Sciences
- Tulane University, Department of Structural & Cellular Biology, Anatomy Certification & Leadership Program
- Tulane University, Department of Structural & Cellular Biology, Masters in Anatomy
- University of California, Davis, Molecular, Cellular & Integrative Physiology Graduate Program
- University of Cincinnati, Pharmacology & Systems Physiology
- University of Florida, Department of Applied Physiology & Kinesiology
- University of Michigan, Molecular & Integrative Physiology
- University of Nebraska Medical Center, Integrative Physiology & Molecular Medicine Doctoral Program



Undergraduates discuss their research with APS members

- Washington State University, PhD in Pharmaceutical Sciences
- Wayne State University, Department of Physiology
- West Virginia University Health Science Center, Office of Research and Graduate Education

APS looks forward to hosting the David Bruce Undergraduate Poster Session at EB 2019 in Orlando, FL. Undergraduate students doing research in physiology are encouraged to submit abstracts to EB, apply for the APS Barbara A. Horwitz and John M. Horowitz Undergraduate Research Awards, and attend this poster session. Departments interested in taking advantage of this graduate student recruitment opportunity by sponsoring the 2019 Undergraduate Poster Session and displaying materials for their programs should contact the APS Education Office (education@the-aps.org). ●

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Barbara A. Horwitz and John M. Horowitz Outstanding Undergraduate Abstract Awards and Excellence in Undergraduate Research Awards

Sumei Liu (University of Wisconsin-La Crosse) and John Durocher (Michigan Technological University), APS Education Committee

The Barbara A. Horwitz and John M. Horowitz Undergraduate Research Awards are presented annually to undergraduate students who present their research at the EB meeting. There are two types of undergraduate research awards: Barbara A. Horwitz and John M. Horowitz Outstanding Undergraduate Abstract Awards and Barbara A. Horwitz and John M. Horowitz Excellence in Undergraduate Research Awards.

In January 2018, 94 undergraduates competed for 30 Barbara A. Horwitz and John M. Horowitz Outstanding Undergraduate Abstract Awards. The APS Education Committee selected the abstract award winners based on the quality and novelty of the student's abstract, a letter of recommendation from their research advisor, and a description of their career goals and research. Each winner received an award of \$100, a certificate of recognition, and a 2-year undergraduate student membership to APS (winners listed in Table 1).

The 30 Outstanding Undergraduate Abstract awardees were eligible to compete for the Barbara A. Horwitz and John M. Horowitz Excellence in Undergraduate Research Awards, which require students to present

their posters to a panel of judges during a special session at the Experimental Biology meeting. This year, Education Committee members Sumei Liu (University of Wisconsin-La Crosse) and John Durocher (Michigan Technological University) led a panel of 60 volunteer judges, which included members of the Education Committee and additional APS members. The judges selected 14 Excellence in Undergraduate Research Award winners (Table 2) based on their presentation skills and interviews with the judges. The winners were announced on site during the APS Undergraduate Poster Session and Awards Ceremony. Each winner received \$400 and a certificate of recognition (a total of \$500). In addition, two top-ranked awardees each received an additional \$250 (a total of \$750).

APS congratulates the 2018 Barbara A. Horwitz and John M. Horowitz Outstanding Undergraduate Abstract Awardees and the Excellence in Undergraduate Research Awardees. APS also thanks all the members who voluntarily judged for these awards. Special thanks to APS members Barbara A. Horwitz and John M. Horowitz for their extraordinary generosity and strong support of the undergraduate research awards.



2018 Barbara A. Horwitz and John M. Horowitz Outstanding Undergraduate Abstract Awardees



2018 Barbara A. Horwitz and John M. Horowitz Excellence in Undergraduate Research Awardees

Table 1. 2018 Barbara A. Horowitz and John M. Horowitz Outstanding Undergraduate Abstract Awardees

Student/Institution	Host/Institution
Maleeha Ahmad Michigan State University	Stephanie W. Watts, PhD Michigan State University
Emily Bell Elon University	Jennifer Uno, PhD Elon University
John Bonamer University of Cincinnati	Bryan Mackenzie, PhD University of Cincinnati
Thomas Bye Michigan Technological University	Steven Elmer, PhD Michigan Technological University
Alexandra Carl University of Wisconsin-Madison	Jill Barnes, PhD University of Wisconsin-Madison
Shane Carr University of Arizona	Jason X.-J. Yuan, MD, PhD University of Arizona Health Sciences
Rebecca Fleeman University of Florida	Amy Arnold, PhD Pennsylvania State University College of Medicine
Ethan Goh University of Utah	My Helms, PhD University of Utah
Emily Gornick Benedictine University	Jayashree Sarathy, PhD Benedictine University
Winston Guo University of Minnesota-Twin Cities	Jacqueline Limberg, PhD University of Missouri
Rachel Harradine University of Wisconsin-Madison	Marlowe Eldridge, MD University of Wisconsin-Madison
Caitlin Jarrard University of Wisconsin-Madison	Marlowe Eldridge, MD University of Wisconsin-Madison
Joohee Kang Emory University	Jeanie Park, MD Emory University
Karly Katchen University of Wisconsin-Madison	Jill Barnes, PhD University of Wisconsin-Madison
Maloree Khan University of Missouri-Columbia	Shawn Bender, PhD University of Missouri-Columbia
Connor Laule University of Minnesota Medical School, Duluth Campus	Jean F. Regal, PhD University of Minnesota Medical School, Duluth Campus
Ashley Loeven Le Moyne College	Lara R. DeRuisseau, PhD Le Moyne College
Amanda Ludwig Purdue University	Joshua Selsby, PhD Iowa State University
Monisha Mistry Emory University	Clintoria Richards Williams, PhD Emory University
Hayley Moyer Emory University	Brandi M. Wynne, PhD Emory University School of Medicine
Thara Nallamothu University of Chicago	Alfredo J. Garcia, PhD University of Chicago
Kelsey Olson Louisiana State University School of Veterinary Medicine	Jennifer Sones, DVM, PhD Louisiana State University School of Veterinary Medicine
Dante Pezzutti University of Dayton	Carissa Krane, PhD University of Dayton
Anna Salmonsén Gettysburg College	Josef Brandauer, PhD Gettysburg College

Table 1. *continued*

Student/Institution	Host/Institution
Lindsey Sniffen Emory University	Malu G. Tansley, PhD Emory University
Zachary Trottier Mayo Clinic	Michael J. Joyner, MD Mayo Clinic
Alexandria Valdez University of South Florida Morsani College of Medicine	Timo Rieg, MD, PhD University of South Florida Morsani College of Medicine
Jen Xu Harvard College	Tzongshi Lu, PhD Brigham & Women's Hospital
Shao Yang Zhang University of Iowa	Justin L. Grobe, PhD University of Iowa
Shaelynn Zouboules Mount Royal University	Trevor A. Day, PhD Mount Royal University

Table 2. *2018 Barbara A. Horowitz and John M. Horowitz Excellence in Undergraduate Research Awardees*

Student/Institution	Host/Institution
Maleeha Ahmad* Michigan State University	Stephanie W. Watts, PhD Michigan State University
John Bonamer University of Cincinnati	Bryan Mackenzie, PhD University of Cincinnati
Thomas Bye Michigan Technological University	Steven Elmer, PhD Michigan Technological University
Alexandra Carl University of Wisconsin-Madison	Jill Barnes, PhD University of Wisconsin-Madison
Emily Gornick Benedictine University	Jayashree Sarathy, PhD Benedictine University
Caitlin Jarrard University of Wisconsin-Madison	Marlowe Eldridge, MD University of Wisconsin-Madison
Karly Katchen University of Wisconsin-Madison	Jill Barnes, PhD University of Wisconsin-Madison
Connor Laule University of Minnesota Medical School, Duluth Campus	Jean F. Regal, PhD University of Minnesota Medical School, Duluth Campus
Ashley Loeven Le Moyne College	Lara R. DeRuisseau, PhD Le Moyne College
Hayley Moyer Emory University	Brandi M. Wynne, PhD Emory University School of Medicine
Thara Nallamotheu University of Chicago	Alfredo J. Garcia, PhD University of Chicago
Dante Pezzutti* University of Dayton	Carissa Krane, PhD University of Dayton
Zachary Trottier Mayo Clinic	Michael J. Joyner, MD Mayo Clinic
Shaelynn Zouboules Mount Royal University	Trevor A. Day, PhD Mount Royal University

*Top ranking awardee.

Physiology Video Contest Award Winners Announced

Rasna Sabharwal (University of Iowa) and Dan Craighead (University of Colorado Boulder)

For the past 8 years, the APS Physiology Video Contest “Function Follows Form” has encouraged undergraduate and graduate students to creatively connect with physiology and engage with the broader public by creating short videos on a physiological topic of the student’s choice. The contest gives out two annual awards, the 1st Place Video Award and the Viewer’s Choice Award.

The 1st Place Video award is selected by the APS Career Opportunities in Physiology Committee, chaired by Thomas Pressley (Texas Tech University Health Sciences Center). The committee selects the award-winning video based on originality, creativity, and quality of the video; whether the video explained the scientific principle at issue clearly and accurately; whether the video made physiology

more interesting and relevant to the public; and the overall impact of the video. The winner of the 1st Place Video is awarded \$750 plus up to \$1,000 to partially cover travel costs to attend Experimental Biology. This year’s winner was “Superbug Blues” by Noah Resnick (Kean University).

The Viewer’s Choice Award is given to the video with the most YouTube hits by the first day of EB; the winner receives \$250. This year’s winner was “Physiology of Memory and Learning” by May Elsayed.

2018 marked the last year the APS will offer the Physiology Video Award. To view all past awardees and submissions go to <http://www.the-aps.org/video>. ●

Anne Crecelius Wins 2018 ADInstruments Macknight Early Career Innovative Educator Award



Anne C. Crecelius

Anne C. Crecelius is the 2018 recipient of the eighth annual ADInstruments (ADI) Macknight Early Career Innovative Educator Award. Crecelius, a member of the APS Teaching of Physiology Section, is an assistant professor in the department of health and sport science at the University of Dayton in Ohio. We recently caught up with her to learn how

her love of the outdoors, early sense of curiosity, and healthy dose of sibling rivalry led to the ADI Macknight Award. She also shared why she feels research and career development awards are so important.

Background and Early Life Interest in Science

Crecelius was the youngest of four children. “I was a curious kid who loved playing with educational toys, begged my mom to [let me] go to school, and would get frustrated when my older siblings knew more Trivial Pursuit answers than I did,” Crecelius said.

“I spent my elementary years living in Grand Junction, CO, and loved exploring the natural environment, learning about dinosaurs and how the mountains formed, whether it [was] through Girl Scouts, a trip to the museum, or just reading on my own.” A move from Colorado to Minnesota—which used a different science teaching curriculum—created gaps in Crecelius’ early life-science education. Ironically, she didn’t take the anatomy and physiology course offered in high school, focusing instead on physics and math.

Crecelius enrolled at the University of Dayton to study education. “But after a semester, [I] knew it wasn’t for me,” she said. She transferred to the health and sport science department, “figuring that learning about the body would be a practical pursuit, since we all have a body.” As she progressed through college, she “grew more interested in the integrated nature of physiology and how we learned all of this information about our bodies.”

Crecelius earned a bachelor of science in education in exercise science from the University of Dayton, followed by a master’s degree and PhD in cardiovascular

physiology from Colorado State University. Today, she teaches human physiology and research in health and sport science courses at the University of Dayton. Crecelius also teaches capstone research courses at the university's new GEMnasium—GEM stands for growth, education and mindset—an “innovative learning space, which allows faculty across departments to bring students together to find solutions to complex problems using applied creativity,” she explained. For her work with the GEMnasium, Crecelius has been honored with the 2018 ADI Instruments Macknight Early Career Innovative Educator Award (Macknight Award).

On Winning the 2018 ADI Macknight Early Career Innovative Educator Award

The Macknight Award is made possible by APS's strategic partner ADI Instruments. It honors an APS member who demonstrates the greatest potential for incorporating innovative teaching techniques and effectively using technology resources to engage undergraduate students in physiology education.

The APS Education Committee, chaired by Jeffrey L. Osborn of the University of Kentucky, selected Crecelius from a competitive pool of applicants. She was chosen based on her CV and a brief summary of her teaching project, “Doing Physiology in the GEMnasium.” Crecelius's project exemplifies innovative use of technology in physiology education and integration in the curriculum to best benefit students.

Crecelius is particularly proud of being recognized for the applied creativity aspect of her work. “Applied creativity as we define it is the intersection of transdisciplinary learning and humanity-centered design,” she said. By incorporating physiology into the GEMnasium, students

in a variety of majors, from physiology to engineering, may be able to help solve each other's research problems. “By utilizing the PowerLab in this classroom space, rather than in a traditional lab, we're hoping to open up the doors a bit to show students, faculty, and the community what ‘research’ is and can be,” Crecelius said.

As part of her award, Crecelius receives a \$1,500 honorarium and up to \$2,000 travel reimbursement and complimentary registration to attend the APS annual meeting at Experimental Biology. The University of Dayton will also receive an institutional grant for the ADI PowerLab PTB4153 Human and Animal Physiology System, which includes PowerLab 15T and LabTutor Teaching Suite software.

On the Importance of Research and Career Development Awards

“I can't underestimate the importance of these types of award,” Crecelius said. “Awards like these help provide the opportunity to attend conferences, learn and network with peers, and have a full experience. It helps individuals self-reflect on what is important to them, what they might want to do, and how they could do it.

“I think it is important for these awards to be supported because it helps get what physiology is out there to our students, institutions, peers, and the public. I think we should take opportunities to promote our discipline and our Society (as well as our strategic partners like ADI) when we can,” Crecelius added.

Congratulations Anne, on winning this year's award! Learn more about the ADI Macknight Early Career Innovative Educator Award on the APS awards website (<http://www.the-aps.org/mmn/awards>). ●

Patricia Halpin Named 2018 Dale J. Benos Early Career Professional Service Awardee

Patricia Halpin, Assistant Professor of Biology at University of New Hampshire at Manchester received the 11th annual Dale J. Benos Early Career Professional Service Award at the 2018 EB Meeting. This award honors an early career APS member who demonstrates dedication and commitment to furthering the broader goals of the physiology community.

The APS Trainee Advisory Committee (TAC) selected Halpin from a competitive pool of applicants based on a description of her contributions to the physiology community, letters of recommendation, and her CV. Halpin has been a leader in science outreach for the past decade. Her efforts have focused on reaching students of refugee and immigrant families in her community in Manchester, NH. Along with planning outreach events herself, Halpin has engaged several undergraduate students and APS members to plan their own outreach events.

Halpin has been planning PhUn Week activities for middle and high school students from refugee and immigrant families in her community since 2011. She has also brought PhUn Week to primary schools in Victoria, Australia. She regularly participates in the Women in Science and Technology forum at her university, giving talks to encourage high school girls to pursue biology careers.

In addition to her personal involvement in outreach, Halpin has engaged undergraduates in various events throughout the community. She recruits undergraduate teaching assistants and created a STEM ambassadors program at her university in which female undergraduate science majors mentor high school girls. In addition, 27 of her students have worked together to create 16 videos for the APS Video Contest.



APS Trainee Advisory Committee Chair Christopher Banek, APS President-elect Jeff Sands, 2018 Benos Awardee Patricia Halpin, and APS President Dennis Brown

Halpin served on the APS Education Committee from 2014 to 2017 and is currently a member of the Teaching Section Steering Committee and liaison to the Education Committee. Halpin serves on the planning committee for the APS Institute for Teaching and Learning. At EB, Halpin has presented posters on PhUn Week, planned a networking session for educators, and led workshops for high school students. Halpin is a reviewer for *Advances in Physiology Education* and APS Minority Outreach Fellowship applications. She also coordinates PhUn Week blog posts for the Life Science Teaching Resource Community (LifeSciTRC) and posts on the *Advances in Physiology Education* Facebook page.

Halpin received a \$1,000 honorarium, a recognition certificate, and complimentary EB 2018 registration during the APS Business Meeting. ●



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Patricia Molina Receives A. Clifford Barger Underrepresented Minority Mentorship Award

Amie Dirks-Naylor, Wingate University School of Pharmacy, APS Porter Physiology and Minority Affairs Committee

The A. Clifford Barger Underrepresented Minority Mentorship Award promotes and embodies the APS goal of broad diversity among physiologists by recognizing outstanding mentors who make significant impacts on diversity in physiology. It acknowledges mentoring as a highly valued professional activity that merits a prestigious award by the Society. Recipients of the award are individuals who have demonstrated commitment to the leadership, guidance, and mentorship of underrepresented minority student physiologists. The 2018 awardee of the A. Clifford Barger Award is Patricia E. Molina. Molina was nominated for the award by her colleague Flavia Souza-Smith.

Molina is currently Professor, Head of the Department of Physiology, and Director of the Alcohol and Drug Abuse Center of Excellence at Louisiana State University Health Sciences Center (LSUHSC) in New Orleans. She earned her MD from the Universidad Francisco Marroquin in Guatemala, and her PhD in Physiology from LSUHSC. She then completed 2 years of postdoctoral research at Vanderbilt University. Her first faculty position was Assistant Professor of Surgery and Physiology at the State University of New York at Stony Brook (1992–1996), followed by a position as Chief of Surgical Research at North Shore University Hospital in New York (1996–1999). During this time, she was also Guest Scientist at the Brookhaven National Lab in Upton, NY. In 1999, she joined the Department of Physiology at LSUHSC as an associate professor and was promoted to professor with tenure status in 2004. In 2008, she was named the Richard Ashman Professor and appointed as department head.

Molina has made outstanding contributions in research and has exhibited a strong commitment to mentoring underrepresented minorities to promote their success in the physiological sciences. Her primary research focus has been the impact of alcohol on HIV/AIDS and traumatic injury, in which she has published well over 150 research articles, book chapters, and books. She has been successful in obtaining continual extramural funding since she completed her PhD and is currently funded by the National Institute of Alcohol Abuse and Alcoholism

(NIAAA) and the National Institute of Drug Abuse (NIDA). She is director (and previous co-director) of the NIH-funded T32 Biomedical Alcohol Research Training Program at LSUHSC, which supports the training of MD and PhD pre- and postdoctoral fellows. As co-director of the training grant, Molina strived to increase general recruitment and has been successful in recruiting a diverse group of trainees, including Hispanics, African-Americans, females, and individuals from other underrepresented backgrounds. As director, she continues this recruiting initiative and continually stimulates the support and development of underrepresented minorities in the field. Over her career, Molina has mentored more than 40 high school, undergraduate, graduate, and medical students, postdoctoral and post-residency fellows, and residents. Of these, over half are women and/or underrepresented minorities. Many of her mentees have been supported by APS Porter Fellowships and NIH F30, F31, F32, K01, K99/R00, and T32 grants. Since 2010, Molina has served as chair of the National Hispanic Science Network on Drug Abuse (NHSN), an organization with a mission to develop the next generation of Hispanic researchers on drug abuse and comorbid conditions, within which she also mentors numerous trainees from the Latino community. Her distinction of mentorship was recognized by the Excellence in Mentorship Award from the NHSN in 2012.



APS President-elect Jeff Sands, Porter Physiology and Minority Affairs Committee Chair Layla Al-Nakkash, 2018 Barger Awardee Patricia Molina, and APS President Dennis Brown



Molina is a remarkable example of a leader. As distinguished professor and department head, Molina developed a three-phase plan requiring self-evaluation/reorganization, growth, and excellence to recover the department following Hurricane Katrina. One of her main initiatives has been to help junior faculty secure extramural funds from major funding agencies. Her service to LSUHSC also includes leadership roles as director of the NIH-funded P60 Comprehensive Alcohol-HIV/AIDS Research Center (CARC). Prior to becoming director, she served as the director of the Education and Outreach Component of the CARC for 15 years. She has also served as vice chair of the Multicultural and Diversity Committee of the School of Medicine for over 10 years. Molina has held numerous leadership roles in professional organizations outside of LSUHSC. In the APS alone, she has served as chair of the Porter Physiology Development Committee, chair of the International Committee, councilor of the Society, councilor of the Endocrinology and Metabolism Section, and as the 88th President. In 2015, she was named Fellow of the APS. Most recently, she was nominated to serve as treasurer of the International Union of Physiological Sciences (IUPS) and President of the Association of Chairs of Departments of Physiology (ACDP).

Molina has a strong commitment to education and student development. She has developed new courses for graduate and medical students to help prepare them for their careers. She developed a Medical Spanish Elective

for students in all health care professions for them to develop skills needed to work with Spanish-speaking patients. She has also implemented Journal Club for graduate students, weekly seminars given by intramural and visiting distinguished researchers, video-conferences, and work-in-progress meetings to enhance the research and collaborative environment. She also has contributed to the Physiology teaching responsibilities in the graduate school, dental school, nursing school, and allied health program. Her specialty is endocrine physiology in which she has authored her own textbook. In 2016, Molina was awarded the Aesculapian Excellence in Teaching Award from the School of Medicine at LSUHSC.

Molina has excelled as a researcher, educator, leader, and mentor. It is due to her continual dedication to the development and mentorship of underrepresented minorities throughout her successful career that she embodies the essence of the Clifford A. Barger Award. Molina was presented the award certificate and a \$1,000 check at the APS Business Meeting at EB 2018.

APS members can nominate members for the 2019 Barger Award. For more information, see the APS website (www.the-aps.org/barger) or contact education@the-aps.org. The application deadline is September 15, 2018. ●

Portions of this article have been adapted from the Barger Award application materials and the website (<http://www.the-aps.org/mm/education/Minority-Program/Educational-Projects/A-Clifford-Barger-Underrepresented-Minority-Mentorship-Award/Awardees>).



Life Lines by Dr. Dolittle Blog
*Penned by a comparative physiologist and proud member of
the American Physiological Society*

LifeLinesBlog.com

Translational Research Awards Granted to Graduate Student and Postdoctoral Fellow

The Translational Research Awards, overseen by the APS Physiologists in Industry Committee (PIC) and previously known as the Novel Disease Model Awards, recognize a graduate student and a postdoctoral fellow whose area of experimental research is translatable to industry applications (treatment development or improvement, diagnosis, mechanism of action, health and wellness).

The PIC, chaired by Matthew Zahner of East Tennessee University and previously Pfizer Inc., received a record-high number of applications for the 2018 awards. One graduate student and one postdoctoral fellow were selected from the competitive applicant pool based on the translational nature of their project and its potential utility for future research.

Jianxiang Xue from the University of South Florida received the predoctoral Translational Research Award for his abstract titled "Inducible Intestinal Epithelial Cell-Specific NHE3 Knockout Causes Diarrhea and More Alkaline Luminal Content." Xue received \$500, a certificate of recognition, and complimentary advanced registration to attend the EB meeting.

Paramita Pati, from the University of Alabama at Birmingham, received the postdoctoral Translational Research Award for her abstract titled "Evidence for Circadian Control of Endothelial Function in Mice on

a High Fat Diet." Pati received \$800, a certificate of recognition, and complimentary advanced registration to attend the EB meeting.

Pati and Xue were honored at the APS Business Meeting at EB 2018, where they received their award certificates.

The 2019 Translational Research Awards are open to predoctoral students and postdoctoral fellows who submit a first-author abstract sponsored by an APS member to the 2019 EB meeting in Orlando. For more information and to apply, please visit the APS awards webpage (<http://www.the-aps.org/mm/awards>). ●



APS President-elect Jeff Sands, Paramita Pati, Jianxiang Xue, and APS President Dennis Brown

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APS and Janssen Pharmaceuticals Support Minority Travel Fellows

Forty-one APS Minority Travel Fellows (MTFs) attended the APS's annual meeting Experimental Biology (EB) 2018 in San Diego, CA. Six of the 41 Fellows were funded by support from Janssen Pharmaceuticals, Company of Johnson and Johnson. In addition, seven of the eight 2017–2018 Porter Physiology Development Fellows received travel awards to attend EB. The APS annually provides \$125,000 in funding for travel fellowships for underrepresented minority physiologists to attend EB and APS conferences. The fellowships provide funds for registration, transportation, meals, and lodging expenses.

Fellows in the Minority Travel program also received professional guidance through pairings with APS members who served as “meeting mentors” to the Fellows for the duration of the conference (see Table 2). Thanks to the time and expertise offered by mentor volunteers, Fellows were able to expand their network of professional colleagues.

During EB, several events were offered as part of the MTF program, including an orientation and reception on Saturday afternoon, a networking lunch on Monday, and a luncheon on Wednesday. All events were very well attended by Fellows, meeting mentors, Porter Physiology Development and Minority Affairs Committee members, members of the APS leadership including APS President-elect Jeff Sands, APS President Dennis Brown, APS Past-President Jane Reckelhoff, and Executive Director Martin Frank. During the networking lunch on Monday, Fellows and meeting mentors had the opportunity to interact with one another again to exchange contact information, provide career-related answers or advice, and introduce Fellows to other possible mentors in their particular research areas and/or geographical areas. This year,

the networking lunch program included roundtable discussion topics with discussion leaders and resource handouts (see Table 1).



Travel Fellows at the EB 2018 Minority Travel Fellow Luncheon

The Wednesday luncheon provided an additional opportunity for students and mentors to solidify their interaction and to discuss or clarify concepts learned and acquired during the meeting. The highlight of the luncheon was the keynote address given by Marty Frank, former Executive Director of APS. Frank's talk, “Reflections—the Role of APS in Promoting Diversity,” highlighted the history of diversity and inclusion initiatives within the APS. Frank's talk is available at https://youtu.be/MUUIWsBJpt_M.



Minority Travel Fellow Luncheon Keynote Speaker Martin Frank

The APS's Minority Travel Fellowship Awards are open to graduate students, postdoctoral students, and early career faculty (within 5 years of earning a PhD) from groups underrepresented in science (i.e., underrepresented racial/ethnic minorities and persons with disabilities). Applicants must be attending U.S. institutions and conducting research within the 50 states and U.S. Territories. The specific intent of this award is to broaden participation of underrepresented researchers in the physiological sciences. For more information, contact the APS Education Office at education@the-aps.org or visit <http://www.the-aps.org/minoritytravel>. ●



Travel Fellows supported by Janssen at the EB 2018 Minority Travel Fellow Luncheon with Pamela Hornby, Janssen Research & Development (center)

Table 1. *Networking Lunch Discussion Topics and Leaders*

Topic	Leader(s)
Perfecting Your CV and Writing a Good Cover Letter	Francisco Andrade University of Kentucky
Finding Grant Opportunities	Evangeline Motley-Johnson Meharry Medical College
Interviewing Skills	J. Paula Warrington University of Mississippi Medical Center
Tips on Writing and Defending a Dissertation	Angelina Hernandez-Carretero University of California, San Diego
Mentor Selection	Manuel Navedo University of California, Davis
Graduate School vs. Medical School	Jessica Ibarra University of the Incarnate Word
Clinical Research	Jorge Gamboa Vanderbilt University
Mastering the Elevator Pitch	Gabby Navar Tulane University Health Sciences Center
Thriving as One: When you are the Only URM in your Department	Patricia Molina Louisiana State University Health Sciences Center
Networking Effectively	Ana Estevez Saint Lawrence University and Patricia Silverya Penn State College of Medicine
Alternative Career Options	Corey Reynolds Baylor College of Medicine and Alencia Washington Halyard Health

Table 2. *APS Travel Fellows and Meeting Mentors at Experimental Biology 2018*

Travel Fellow	Meeting Mentor
Karima Ait-Aissa Medical College of Wisconsin	William Schrage University of Wisconsin-Madison
Folagbayi Arowolo University of Wisconsin-Madison	Ronald Ferraris Rutgers New Jersey Medical School
Olubusayo Awe** Johns Hopkins University	Stan Andrisse Howard University
Hildebrando Candido Ferreira Neto Georgia State University	Sarah Clayton Des Moines University
Katrina Carter University of Wisconsin-Madison	J. Paula Warrington University of Mississippi Medical Center
Ellen Conceicao Oregon Health & Science University	Margarita Curras-Collazo University of California, Riverside
Alec Davila Medical College of Georgia, Augusta University	Kristi Deleon Pennell Medical University of South Carolina
Janice Diaz-Otero Michigan State University	Keshari Thakali University of Arkansas Medical Center

Travel Fellow	Meeting Mentor
Cameron Dickens* University of Dayton	J. Mikhail Kellawan University of Oklahoma
Leandra Figueroa-Hall Yale University	Ronald Ferraris Rutgers New Jersey Medical School
Maurice Fluitt Georgetown University	Jan Williams University of Mississippi Medical Center
Selina Garcia University of New Mexico School of Medicine	Nina Stachenfeld Yale University
Jose Godoy-Lugo University of California Merced	Damian Romero University of Mississippi Medical Center
Siomara Hernandez- Rivera Michigan State University	Carmen Hinojosa-Laborde U.S. Army, MEDCOM AISR
Jermaine Johnston University of Alabama At Birmingham	Jan Williams University of Mississippi Medical Center
Gregory Joseph* New York Medical College	Gregory Brower Texas Tech University Health Sciences Center
Emily Larson* University of Oregon	Amie Dirks Naylor Wingate University
Maribel Marquez Medical College of Wisconsin	Annet Kirabo Vanderbilt University
Anberitha Matthews University of Tennessee Health Science Center	Layla Al-Nakkash Midwestern University
Armand Meza University of Wisconsin, Madison	Amadou Camara Medical College of Wisconsin
Francesca Mowry Auburn University	Layla Al-Nakkash Midwestern University
Ashley Newsome University of Mississippi Medical Center	Cynthia Jackson
Salma Omer Vanderbilt University	Mark Bevensee University of Alabama at Birmingham
Brian Paleo* Ohio State University	Annelyn Torres Reveron The University of Texas Rio Grande Valley
Victoria Parker** University of Iowa	Larissa Shimoda Johns Hopkins School of Medicine
Thomas Parks University of South Florida	Kathryn Meier Washington State University
Rebecca Parodi** University of Puerto Rico School of Medicine	Larissa Shimoda Johns Hopkins School of Medicine
Candace Receno* Syracuse University	Gustavo Nader Pennsylvania State University
Naiomy Rios-Arce** Michigan State University	Ana Estevez St. Lawrence University
Eric Rivas Texas Tech University	Andrew Lovering University of Oregon
Candy Rivas** University of Arizona	Adrienne Bratcher University of Louisville
Austin Robinson University of Delaware	Kathy Ryan Tactical Combat Casualty Care Research US Army Institute of Surgical Research (TX)
Richard Severin University of Illinois-Chicago	Li (Alex) Zuo Ohio State University Wexner Medical Center

Travel Fellow	Meeting Mentor
Mirian Silva* Auburn University	Annelyn Torres Reveron The University of Texas Rio Grande Valley
Denisha Spires Medical College of Wisconsin	L. Gabriel Navar Tulane University
Lindsey Stavola Yale University	Carmen DeMiguel University of Alabama at Birmingham
Crystal Taylor** University of Alabama at Birmingham	Adrienne Bratcher University of Louisville
Olivia Travis University of Mississippi Medical Center	Jennifer Sullivan Augusta University
Laura Weise Cross University of New Mexico	Jose Pablo Vazquez-Medina University of California, Berkeley
Diarra Williams** Texas A&M University	Ana Estevez St. Lawrence University

*Janssen Fellow. ** Porter Fellow.

With membership comes opportunity.

“[The award] allowed me to invest in a new technology in my lab. The recognition also helped increase my visibility within APS and tangibly helped with respect to my successful tenure application.”

— Declan McCole, PhD
S&R Foundation Ryuji Ueno
Young Investigator Award

As part of our goal to foster education, scientific research and dissemination of information in the physiological sciences, APS provides more than 400 awards in the field of physiology each year totaling more than \$1.2 million. Learn more and apply for awards at the-aps.org/awards.

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

The APS Women in Physiology Committee (WIPC), chaired by Sue Marsh (Washington State University), selected 53 awardees from a pool of 95 eligible applicants. Applicants were required to be APS members (either student or regular) at the time of application and could not have won the award previously as a graduate student (if currently a graduate student) or as a postdoctoral fellow (if currently a postdoctoral fellow). Applicants were chosen based on the quality and novelty of their abstracts, and letters written by the candidates describing their career

goals, research, and why they were particularly deserving of the award. Each awardee received \$500, a certificate of recognition, and complimentary advanced registration for the EB 2018 meeting; the Fleur L. Strand Awardee received \$1,000. Awardees also received biography cards with information about each of their named awards (Caroline tum Suden and Frances A. Hellebrandt, Steven M. Horvath and Fleur L. Strand).

Awards were presented during the APS Business Meeting to:

Name	Institution
Samuel Adeosun	University of Mississippi Medical Center
Larry Agbor	University of Iowa
Baraa Al-Khazraji	Western University
Aleksandra Babicheva	University of Arizona
Tyler Bammert	University of Colorado Boulder
Isola Brown	Michigan State Univeristy
Joshua Butcher	Augusta University
David Chabowski	Medical College of Wisconsin
Tony Chao	University of Texas Medical Branch
Christopher Chapman	University At Buffalo
Matthew Cramer	Institute for Exercise and Environmental Medicine
Melisa Crawford	Arizona State University
John Henry Dasinger	Medical College of Wisconsin
Adwitia Dey	Penn State University
Lyndsey Dubose	University of Iowa
Jeremy Duncan	University of Mississippi Medical Center
Matthew Ely	University of Oregon
Melinda Engevik	Baylor College of Medicine
Alissa Frame	Boston University School of Medicine
Robert Fuchs	Louisiana State University Health Science Center
Elizabeth Fucich	Louisiana State University Health Science Center
Christopher Hearon	University of Texas Southwestern Medical Center
Stephanie King	University of California, Riverside
Stephen Klassen	Western University
Benjamin Kugler	University of Northern Colorado

Name	Institution
Supaporn Kulthinee	Tulane University
Robert Larson	University of Iowa
Marcus Lawrence	University of North Carolina at Charlotte
Anna Manis	Medical College of Wisconsin
Alexandria Marciante	University of North Texas Health Science Center
Mary McGinn	Louisiana State University Health Science Center
Kamila Migdal	University of Delaware
Erin Moir	Western University
Alan Mouton	University of Mississippi Medical Center
Subhra Nag	Cleveland State University
Shyam Nandi	University of Nebraska Medical Center
Oluwatobiloba Osikoya	University of North Texas Health Science Center
Jordan Patik	The University of Texas at Arlington
Franco Puleo	Boston University
John Reho	University of Iowa
Naiomy Rios-Arce	Michigan State University
Jean-Philippe Rousseau	Université Laval
Joshua Smith	Mayo Clinic
Hannah Spaulding	Iowa State University
Michael Tomac	Chapman University
Matthew Tucker	Augusta University
Venkata Ramana Vaka	University of Mississippi Medical Center
Bruna Visniauskas	Tulane University
Jing Wu	University of Iowa
Simin Yan	University of New Mexico

2018 Steven M. Horvath Professional Opportunity Award Recipients

Name	Institution
Denisha Spires	Medical College of Wisconsin
Austin Robinson	University of Delaware



2018 Horvath Awardees Denisha Spires and Austin Robinson at EB 2018, with APS President-elect Jeff Sands and APS President Dennis Brown

2018 Fleur L. Strand Professional Opportunity Award Recipient

Name	Institution
Melissa Linden	Colorado State University



2018 Strand Awardee Melissa Linden at EB 2018, with APS President-elect Jeff Sands and APS President Dennis Brown

Graduate students and postdoctoral fellows who were first authors on an abstract submitted to EB 2018 were eligible to apply for the tum Suden/Hellebrandt Professional Opportunity Awards, a fund established to honor the memory of Caroline tum Suden and Frances A. Hellebrandt, two female scientists who were instrumental in advancing the status of women in physiology. Two designation awards emerged from the tum Suden/Hellebrandt Awards to provide support for the top two underrepresented minority awardees and top-ranked awardee. The two awards are named after Steven M. Horvath and Fleur L. Strand,

distinguished APS members who were committed to promoting the achievements of junior physiologists.

For information about applying for the 2019 Caroline tum Suden/Frances Hellebrandt Professional Opportunity Awards, visit <http://www.the-aps.org/tumsudenstudent> (graduate student applicants) and <http://www.the-aps.org/tumsudenpostdoc> (postdoctoral fellow applicants); or contact education@the-aps.org. The application deadline for the 2019 awards is November 14, 2018 (<https://www.the-aps.org/awardapps>). ●



2018 tum Suden Awardees at EB 2018 with APS Women in Physiology Committee (WIPC) Chair Sue Marsh and past WIPC Chair Caroline Rickards

Merry Lindsey Receives Schmidt-Nielsen Distinguished Mentor and Scientist Award

The APS Women in Physiology Committee hosted an award lecture and reception at EB 2018 to honor Merry Lindsey of the University of Mississippi Medical Center, who was selected as the 15th recipient of the Bodil M. Schmidt-Nielsen Distinguished Mentor and Scientist Award.

Lindsey's colleagues, trainees, and EB awardees, with over 100 attendees in total, gathered to celebrate and hear her award lecture. Loren Wold (Ohio State University) introduced Lindsey, and Sue Marsh (Chair of the Women in Physiology Committee) gave the award presentation introduction.

Lindsey graduated from Boston University with a major in biology and minors in chemistry and English. She obtained her PhD in 1999 from Baylor College of Medicine, where she studied the expression and activation of matrix metalloproteinase (MMP)-9 in myocardial ischemia/reperfusion under the advisorship of Dr. Mark Entman. After a 3-year fellowship in Dr. Richard T. Lee's laboratory at Harvard Medical School and the Brigham and Women's Hospital in Boston, she accepted her first faculty appointment at the Medical University of South Carolina in 2002. Lindsey moved on to teach at the University of Texas Health Science Center at San Antonio and eventually became Director of the San Antonio Cardiovascular Proteomics Center.



Marty Frank (APS Executive Director), Jeff Sands (APS President-elect), Merry Lindsey, and Sue Marsh (Chair, APS Women in Physiology Committee)

Lindsey has been at the University of Mississippi Medical Center (UMMC) since 2013 as Professor of Physiology and Director of the Mississippi Center for Heart Research.

Lindsey's research has led to more than 180 publications, and she has received over \$20 million in grant support from the NIH, the AHA, the Voelcker Foundation, Novartis, and the Veterans Administration. Lindsey serves on the editorial boards for the *American Journal of Physiology—Heart and Circulatory Physiology*, *Comprehensive Physiology*, *Circulation Research*, and the *Journal of Cardiac Failure*, and is actively involved in APS, the American Heart Association, and the American Society of Matrix Biology. She has reviewed grants for the AHA, NIH, and numerous international funding agencies, and has presented her research at over 100 national and international venues.



Merry Lindsey (right) was nominated for the 2018 Bodil-Schmidt Nielsen Award by Loren Wold (left)

Lindsey is a very hands-on mentor who directly and actively helps her trainees obtain their own research funding, many on first submission applications. Lindsey's trainees routinely publish high-impact articles, win research awards for excellence, and successfully transition to independent faculty positions. She is also author on a mentoring article entitled, "The Physics of an Academic Career," which was recently published in *Advances in Physiology Education* (<https://doi.org/10.1152/advan.00105.2017>).

APS members are encouraged to nominate members for the 2019 Bodil Schmidt-Nielsen Award. For more information, see the APS website (<http://www.the-aps.org/schmidtnielsen>) or contact education@the-aps.org. The application deadline is September 15, 2018. ●

APS Graduate Student Ambassadors Meet at EB 2018

Kristi Streeter, University of Florida, APS Trainee Advisory Committee

The APS Graduate Student Ambassador (GSA) Program provides an opportunity for APS graduate student members to serve as liaisons who promote physiology and the APS at their local universities. The GSA program enrolls up to five APS graduate student members each year who have passed their qualifying exams to serve a 2-year GSA term. Ambassadors are selected based on their leadership skills, willingness to establish collaborations with local institutions, experience with social media platforms, presentation/lecture experience, mentoring experience, and letters of recommendation. Each fellow receives web-based training to enhance their knowledge of physiology, leadership and presentation skills, and APS programs and membership benefits. GSAs also receive \$1,200 in travel funds to attend the annual GSA training and present their research at the EB meeting during their term.

In addition to promoting physiology and APS membership, GSAs participate in activities such as:

- Leadership and professional development training
- Encouraging student involvement in local and national APS meetings (e.g., chapter meetings and EB)
- Establishing contacts, and organizing and implementing visits to undergraduate institutions (including historically black colleges and universities, Hispanic-serving institutions, tribal colleges, and other underrepresented minority-serving institutions) to promote careers in physiology and membership in the APS
- Sharing information on APS web-based training opportunities for undergraduate and graduate students
- Promoting APS student resources and opportunities through the use of social media platforms

During the GSA orientation at the EB 2018 Meeting, the 2017 class of ambassadors joined the 2018 GSAs to provide mentoring on GSA duties and general leadership and outreach skills. The 2017 GSAs had an outstanding inaugural year, visiting over 13 universities in their

communities and promoting physiology and the APS to more than 350 undergraduate and graduate students.

Below are the current GSAs.

2018 Class of Ambassadors (term 2018–2020)

- **Arik Davidyan**, University of California, Davis (APS Section—Environmental and Exercise Physiology)
- **Kamila Migdal**, University of Delaware (APS Section—Cardiovascular)
- **Chelsea Weaver**, University of Kentucky (APS Section—Renal)
- **Oluwatobiloba “Deborah” Osikoya**, University of North Texas Health Science Center (APS Section—Cardiovascular)

2017 Class of Ambassadors (term 2017–2019)

- **Trevi Mancilla**, University of Texas Health Science Center at San Antonio (APS Section—Cardiovascular)
- **Kristen Engevik**, University of Cincinnati (APS Section—Gastrointestinal and Liver)
- **Eryn E. Dixon**, University of Maryland School of Medicine (APS Section—Renal)
- **Grace Sydney Pham**, University of North Texas Health Science Center (APS Section—Water and Electrolyte)
- **Victoria S. Parker**, University of Iowa (APS Section—Endocrinology and Metabolism)

The GSA program is managed by the APS Trainee Advisory Committee (TAC) with support from the APS Education Office. To learn more about the GSA program and/or to apply online, visit the GSA website (<http://www.the-aps.org/gsa>) or contact education@the-aps.org. The deadline to apply for the 2019 class of GSAs is November 21, 2018. ●



APS Connects with Anatomy and Physiology Educators at the 32nd Annual HAPS Conference

Lynn Diener and Jessica Taylor

APS again sponsored a featured speaker and exhibit for the nearly 500 attendees at the 32nd Human Anatomy and Physiology Society (HAPS) annual meeting held May 26–30, 2018, in Columbus, OH. The mission of HAPS is to promote excellence in the teaching of anatomy and physiology by supporting educators, which makes the APS a natural partner. This year's APS-sponsored speaker was Maureen Gannon (Vanderbilt University). Gannon's featured presentation, "Beyond Insulin: Changing How We Think About and Treat Diabetes," was well attended and highly praised. Many attendees visited the APS exhibit booth following Gannon's talk seeking resources related to diabetes. Gannon's talk and related resources are available in the Life Science Teaching Resource Community (LifeSciTRC), which was promoted along with educational resources, and the Physiology Educator Community of Practice (PECOP)

to visitors at the APS booth. Attendees were excited to learn about the benefits of an APS membership and enthusiastic about the 10,000+ free resources housed on the LifeSciTRC digital library (<https://www.lifescitrc.org/>). We anticipate many new memberships thanks to APS attendance at the meeting. The booth, staffed by APS member and LifeSciTRC Community Review Editor Lynn Diener (Mount Mary University, Milwaukee, WI) and staff member Jessica Taylor (APS, Rockville, MD), received steady traffic during the numerous dedicated exhibit times. Visitors commented on the benefits of having a community / APS member and a staff member present at the booth to answer questions and provide programming, awards, and membership information. The 33rd Annual HAPS Conference will be held May 22–26, 2019 in Portland, OR. ●

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Make a connection today at connect.the-aps.org.

Chair/Program Director Leadership Retreat Announced

Chairs or leaders of a department, division of physiology, or program of physiology in any form, in any type of school (medical, graduate, undergraduate, veterinary, osteopathic, dentistry, etc.) are cordially invited to attend the Association of Chairs of Departments of Physiology's (ACDP) annual Leadership Retreat. The meeting will be held on November 29 to December 2, 2018 at the Grand Fiesta Americana Coral Beach Resort in Cancún, Mexico.

Come connect with fellow leaders and hear about the latest in research, biomedical funding, and other issues of interest in a beautiful relaxing setting. ACDP President Janice H. Urban (Rosalind Franklin University of Medicine & Science, Chicago Medical School) has

developed a quality program for attendees along with numerous opportunities for networking and discussion of relevant issues.

Urban has announced that the 2018 Distinguished Service Awardee is Celia D. Sladek (University of Colorado, Denver Anschutz Medical Center), and the 2018 Arthur Guyton Distinguished Lecturer is Frank W. Booth (University of Missouri College of Veterinary Medicine/Dalton Cardiovascular Research Center). Presentations will be made by both awardees.

For more information about the meeting, see acdponline.org/Home/Meetings/2018-Leadership-Retreat. Mark your calendars and plan to attend! ●



Grand Fiesta Americana Coral Beach



Grand Fiesta Americana Coral Beach



Science Policy

National Academies Report on Sexual Harassment in the Sciences

On June 12, 2018, the National Academies of Science, Engineering and Medicine (NASEM) issued a landmark report on sexual harassment of women in the sciences. The report lays out definitions of sexual harassment; reviews current data on its prevalence; identifies factors that contribute to environments where harassment is tolerated; assesses the negative outcomes experienced by targets of harassment; and makes recommendations for stakeholders, including professional societies, to minimize harassment and improve career outcomes for women.

The report defines three categories of sexual harassment: gender harassment, unwanted sexual attention, and sexual coercion. Gender harassment is defined as behaviors that convey hostility to members of one gender. Unwanted sexual attention is unwelcome sexual advances (verbal or physical). Sexual coercion is when an individual conditions professional or educational opportunities on sexual activity. Gender harassment is the most common of the three categories and can take the form of demeaning comments or jokes or the use of terms that belittle people based on their gender.

The report also identified several characteristics of academic science, engineering, and medicine that create a higher risk that harassment will occur:

- These fields are often male-dominated with men in leadership positions.

- There are hierarchical and dependent relationships with trainees dependent on their mentors for educational and career success. This also occurs in isolated lab or hospital environments where trainees spend a lot of time.
- There is a perceived tolerance for harassing behaviors or absence of clear consequences for harassers.

The report's recommendations include actions professional societies can take to prevent harassment and to effect positive culture change. These examples were offered based on actions already taken by some scientific societies:

- Develop codes of conduct for conference attendance.
- Include the unacceptability of sexual harassment in the membership code of conduct.
- Require written acknowledgement that individuals will comply with codes of conduct when registering for a meeting or when joining or renewing membership.
- Develop training or education programs to prevent harassment and to train individuals to intervene when they observe harassment.
- Provide support for targets of harassment.
- Factor professional conduct into award decisions.

The full report is available on the NASEM website (<https://www.nap.edu/catalog/24994/sexual-harassment-of-women-climate-culture-and-consequences-in-academic>). ●

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APS Suggests Ways to Reduce Regulatory Burden

In response to an NIH request for information (RFI), the APS recommended eliminating various duplicative, outdated, and unnecessary animal research oversight regulatory requirements. An RFI on improving the coordination and harmonization of animal welfare regulations and policies between the NIH and USDA (NOT-OD-18-152) was issued in response to the 21st Century Cures Act. This legislation, which was passed by Congress at the end of 2016, called on the NIH, USDA, and FDA to “reduce administrative burden on investigators while maintaining the integrity and credibility of research findings and protection of research animals.” NIH’s Office of Laboratory Animal Welfare (OLAW) took the lead in the interagency effort to respond to this mandate, culminating in this RFI.

The RFI sought comments on four actions the agencies could take to reduce regulatory burden associated with animal research. It also included an opportunity to recommend other actions the agencies should take and whether certain resources might help reduce burden. Suggestions offered by the APS included establishing a risk-based approach to review animal-use protocols and having the USDA eliminate its emphasis on database searches for alternatives to animal studies. To view the full APS statement, go to <http://www.the-aps.org/HarmonizingPolicies>. ●

FY 2019 Funding Bills Move Through Congressional Committees

With midterm elections taking center stage this fall, Congressional appropriators worked over the summer to move fiscal year (FY) 2019 funding bills through the legislative process. The proposed funding levels for federal research agencies as of early July are noted in Table 1. Both the NIH and the NSF are slated to receive sizable budget increases.

The budget increases proposed for NIH include budget increases for each institute and center as well as funds that

are specifically targeted for Alzheimer’s disease research, the All of Us precision medicine initiative, the BRAIN initiative, and the development of a universal flu vaccine.

Of the additional funds proposed for NSF, \$222 million would be added to the Research and Related Activities account, and \$13 million would go to Education and Human Resources programs. Funding would also be provided to construct new research vessels.

Table 1. Status of appropriations for federal research agencies

Agency	FASEB FY 2019 Recommendation	House Proposed Level	Senate Proposed Level	Progress (as of July)
NIH	\$39.3 billion	\$38.6 billion (+3.3%)	\$39.3 billion (+5.4%)	Passed subcommittee in both chambers and full committee in Senate
NSF	\$8.45 billion	\$8.175 billion (+5.2%)	\$8.069 billion (+3.9%)	Passed subcommittee and full committee in both chambers
VA Medical and Prosthetic Research	\$787 million	\$732 million (+1.4%)	\$779 million (+7.9%)	Included in H.R. 5898; passed by both House and Senate
NASA	N/A	\$21.546 billion (+3.9%)	\$21.323 billion (+2.8%)	Included in H.R. 5898; passed by both House and Senate

The percentage increases over FY 2018 levels are indicated in parentheses. ●

Publications

Current Calls for Papers

Journal of Neurophysiology

- Model Systems of Synaptic Transmission
Submission deadline:
December 31, 2018
- Society for the Neural Control of Movement
Submission deadline:
December 31, 2018
- Advances in Vestibular Research: A Tribute to Bernard Cohen, MD
Submission deadline:
December 31, 2018
- 50 Years of Modeling Neural Activity: Celebrating Jack Cowan's Career
Submission deadline:
June 30, 2019
- International Motoneuron Society
Submission deadline:
June 30, 2019
- Modularity and Compositionality in Motor Control: Acknowledging Emilio Bizzi
Submission deadline:
June 30, 2019

Advances in Physiology Education

- K – 12 Outreach
- Curricular Integration of Physiology

Journal of Applied Physiology

- Translational Control of Muscle Mass
Submission deadline:
October 15, 2018

American Journal of Physiology – Cell Physiology

- Cell Physiology of Germ Cells
Submission deadline:
December 31, 2018
- Channels and Transporters in Cell Signaling
Submission deadline:
December 31, 2018
- Correlating Muscle Function with Muscle Health Markers
Submission deadline:
December 31, 2018
- Endoplasmic Reticulum Functions in Cell Physiology and Disease
Submission deadline:
December 31, 2018
- Mitophagy, Autophagy and Cell Death
Submission deadline:
December 31, 2018

American Journal of Physiology – Endocrinology Physiology

- Role of Gut Microbiota, Gut-Brain and Gut Liver Axes in Physiological Regulation of Inflammation, Energy Balance, and Metabolism
Submission deadline:
December 31, 2018
- Browning and Beiging of Adipose Tissue: Its Role in the Regulation of Energy Homeostasis and as a Potential Target for Alleviating Metabolic Diseases
Submission deadline:
December 31, 2018

- Mitochondria Dysfunction in Aging and Metabolic Diseases
Submission deadline:
December 31, 2018
- Immunometabolic Cross-Talk and Regulation of Endocrine and Metabolic Functions
Submission deadline:
December 31, 2018

American Journal of Physiology – Gastrointestinal and Liver Physiology

- The Engineered Gut: Targeting Intestinal Stem Cells, the Stem Cell Niche, and Prospects for Tissue Engineering
Submission deadline:
October 1, 2018
- Immune Regulation, Homeostasis, and Cancer in the Digestive System
Submission deadline:
October 1, 2018
- Mechanisms of Host and Microbiome Interactions in the Digestive System
Submission deadline:
October 1, 2018
- Gut Hormones, Metabolism, Appetite, and Obesity
Submission deadline:
October 1, 2018
- Gastrointestinal Motor, Secretory, and Sensory Functions
Submission deadline:
October 1, 2018
- Digestive Functions in Aging
Submission deadline:
October 1, 2018

Current Calls for Papers (continued)

- Enteric Nervous System in Health and Disease

Submission deadline:

October 1, 2018

- The Role of the Extracellular Matrix in Gastrointestinal and Liver Physiology

Submission deadline:

October 1, 2018

- The Gut-Liver Axis

Submission deadline:

October 1, 2018

American Journal of Physiology – Heart and Circulatory Physiology

- Many Avenues to Cardiac Cell Death

Submission deadline:

January 31, 2019

- Adaptive Immunity in Cardiovascular Disease

Submission deadline:

January 31, 2019

- Chromatin and Epigenetics in Cardiovascular Disease

Submission deadline:

February 15, 2019

American Journal of Physiology – Lung Cellular and Molecular Physiology

- Electronic Cigarettes: Not All Good News?

Submission deadline:

December 31, 2018

American Journal of Physiology – Regulatory, Integrative and Comparative Physiology

- Cardiovascular and Metabolic Consequences of Sleep and/or Circadian Disruption

Submission deadline:

October 1, 2018

American Journal of Physiology – Renal Physiology

- Inflammatory Mediators in Kidney/Bladder Diseases, and in Hypertension

Submission deadline:

December 31, 2018

- Mechanism and Treatment of Renal Fibrosis

Submission deadline:

December 31, 2018

- Sex and Gender in Renal Health and Function

Submission deadline:

December 31, 2018

For a complete list of current Calls for Papers, visit the APS website.

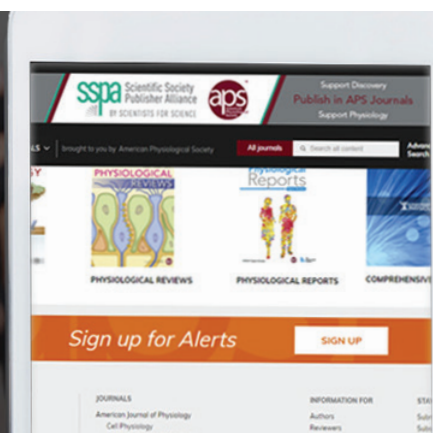
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Brunswick, NJ**John Paul Bielanic**

Univ. of Pittsburgh, Erie, PA

John P. BonamerUniv. of Cincinnati,
Broadview Heights, OH**Alyssa Christine Bonillas**

Portland State Univ., Portland, OR

Claude-Luvier Bonnet

Union Malden, MA

Brenden Amar BrattonJacobs Sch. of Med. & BioMed. Sci.,
Williamsville, NY**Cameron Burkholder**Pennsylvania State Univ.,
Landisville, PA**Valeria Carrillo**Univ. of California-Riverside,
Perris, CA**Susana Del Carmen Castro Meza**Univ. De Sonora Navojoa, Sonora,
Mexico**Kevin Chen**The Univ. of Iowa Hosp.,
Iowa City, IA**Tse Ning Cheung**Simon Fraser Univ., Surrey, BC,
Canada**Brandon Jacob Cooley**

Univ. of Iowa, Iowa City, IA

Chelsy Tiy Cummings

UC Merced, Atwater, CA

Hannah Cunningham

Michigan Tech. Univ., Lena, WI

Brianna Elise Eassa

Le Moyne Coll., Syracuse, NY

Rebecca Fleeman

Univ. of Florida, Melbourne, FL

Ethan Jun Wei Goh

Univ. of Utah, Salt Lake City, UT

Makinzie Nicole HamiltonUniv. of Colorado-Boulder,
Thornton, CO**Rebekah Christine Hans**

Brigham Young Univ., Provo, UT

Mohammed Uzair Haq

Benedictine Univ., Lisle, IL

Jackson Harley

Brigham Young Univ., Cedar Hills, UT

Morgan Harris

Williams Coll., Elmira, NY

Guillermo HasbunUniv. of Alberta, Edmonton,
AB, Canada**Imani Nicole Hill**

Delaware State Univ., Westampton, NJ

Emily Elizabeth Huffman

Univ. of Kentucky, Lexington, KY

Dain Ward Jacob

Univ. of Missouri, Columbia, MO

Connor F. LauleUniv. of Minnesota Med. Sch.,
Duluth Campus, Naperville, IL**Connor F. Laule**Univ. of Minnesota Med. Sch.,
Duluth Campus, Naperville, IL

Jordan Lee

Rutgers Univ., Basking Ridge, NJ

Dengfeng Li

The Univ. of North Carolina at Greensboro, Pfafftown, NC

Josie Dianne Llanora

Univ. of Kentucky, Frankfort, KY

Carolyn Lo

Univ. of Iowa, Des Moines, IA

Ashley Loeven

Le Moyne Coll., Syracuse, NY

Erik Marchant

Brigham Young Univ., Sandy, UT

Patrick Darell McWhorterYoungstown State Univ.,
Youngstown, OH**Max Isaac Myers**

Univ. of Pittsburgh, Pittsburgh, PA

Erika Nemeth

Stony Brook Univ., Smithtown, NY

Juliana Maria O'ReillyWest Virginia Univ.,
Martinsburg, WV**Oishi Paul**

Emory Univ., St. Louis, MO

David Pérez-OrtegaInter American Univ. of Puerto Rico,
Bayamón, Puerto Rico**Ivonnemarie Pérez-Ortega**Inter American Univ., Bayamón,
Puerto Rico**Gopika Punchhi**

Johns Hopkins Univ., Baltimore, MD

Rachel RaguinCalifornia Polytechnic State Univ.,
San Luis Obispo, CA**Caroline Elizabeth Ramous**

Univ. of Utah, Salt Lake City, UT

Kyle Joseph Ritter

Univ. of Kentucky, Lexington, KY

Giovanna Rodrigues FerreiraFederal Univ. of Sao Paulo, São
Paulo, Brazil**José Alejandro Rodríguez-Pérez**Univ. de Ciencias Médicas de la
Habana, La Habana, Cuba**Xocoyotzin Ruiz**

Arizona State Univ., Phoenix, AZ

Anna Christine Salmonsén

Gettysburg Coll., Gettysburg, PA

Matthew Marat SiegelUniv. of Arizona Coll. of Med.,
Peoria, AZ**Aaron Luke Silverstein**

Univ. of Kentucky, Lexington, KY

Dylan Dru Simkins

Brigham Young Univ., Springville, UT

Anmol Singh

Univ. of Arizona, Phoenix, AZ

Eliza Skoler

Carleton Coll., Northfield, MN

Rachel Joy Steckbeck

Messiah Coll., Mechanicsburg, PA

Daimen Stoltz

Univ. of Kentucky, Lexington, KY

Sydney Stone

Univ. of Cincinnati, Shelby, OH

McKenzie Temperly

Drake Univ., Winslow, IL

Giancarlo TravagliaUniv. degli Studi di Padova, Trento,
Italy**Elizabeth Trujillo**

Univ. of Texas at El Paso, El Paso, TX

Ashley Morgan WeaverPenn State Coll. of Med.,
Narvon, PA**Luke Anthony Whitcomb**

Colorado State Univ., Broomfield, CO

Jacqueline L. YuUniv. of California Riverside,
Temple City, CA**Meeraal Zaheer**

Vassar Coll., Poughkeepsie, NY

Affiliate Members**William Rupprecht**

Saint Louis Univ., Rockford, IL

Business Meetings

American Physiological Society 171st Business Meeting

Time: 5:30 PM, Tuesday, April 24, 2018

Place: San Diego, CA

I. Call to Order

The meeting was called to order at 5:30 PM by President Dennis Brown, who welcomed members to the 171th Business Meeting of the American Physiological Society.

II. Election of Officers

President Brown announced the results of the election. The new President-elect is Meredith Hay (University of Arizona; April 25, 2018 to April 2021). The three newly elected Councillors are David Mattson (Medical College of Wisconsin), Timothy Musch (Kansas State University), and Larissa Shimoda (John Hopkins University). The newly elected Councillors will serve a 3-year term (April 25, 2018 to April 2021). All newly elected officers will assume office at the close of EB2018.

III. Approval of Bylaws Changes

A. Request for approval of bylaw changes

President Brown stated the members of APS received changes to our bylaws, which are listed below. The first change is designed to make it easier for the Society to approve bylaw changes via e-ballots instead of having to wait until the next annual meeting.

1. Current Bylaw

ARTICLE XIII. *Amendments*

SECTION 1. *Presentation.* Amendments to these Bylaws may be proposed in writing, by any regular member, to Council at any time up to three months in advance of any Business Meeting of the Society. Such proposed amendments must be presented in writing at the following Business Meeting for action by the Society.

SECTION 2. *Adoption.* These Bylaws may be amended at any Business Meeting of the Society by a two-thirds majority vote of the regular members present and voting.

Change to:

ARTICLE XIII. *Amendments*

SECTION 1. *Presentation.* Amendments to these Bylaws may be proposed in writing, by any regular member, to Council. Following approval by Council (by electronic vote), amendments will be publicized to allow members to discuss the amendment by electronic discussion board for 30 days. Regular members then will have an additional two weeks to vote by electronic ballot.

SECTION 2. *Adoption.* These Bylaws may be amended after approval by a two-thirds majority of the regular members who vote electronically.

The second bylaw change reflects the pending change of location for the APS as it moves from 9650 Rockville Pike, Bethesda, to 6120 Executive Boulevard, Rockville.

2. Current Bylaw

ARTICLE I. *Principal Office*

SECTION 1. The Society will have its principal place of business at 9650 Rockville Pike, Bethesda, MD 20814. The office shall house all activities delegated to the employees of the Society.

Change to:

ARTICLE 1. *Principal Office*

SECTION 1. The Society will have its principal place of business at 6120 Executive Boulevard, Rockville, MD 20852. The office shall house the activities delegated to employees of the Society.

The motion was approved.

IV. Membership

A. Summary of the Membership Status

President-Elect Jeff Sands reported on the status of the Society membership. As of March 1, 2018, the current membership of the Society is 10,8103, of which 6,912 are regular members, 22 are honorary members, 1,184 are emeritus members, 147 are affiliate members, 2,046 are

graduate student members, and 502 are undergraduate student members. He also indicated that women make up 29% of the membership, 27% of our members reside outside of the U.S., and 37% are under the age of 45.

B. Deaths Reported Since the Last Meeting

A list of the names of those members whose deaths had been reported since the 2017 Business Meeting was displayed. Sands asked the membership to stand and to observe a moment of silence in tribute to their deceased colleagues.

V. Awards and Presentations

A. Ray G. Daggs Award

Ray G. Daggs was the APS Executive Secretary-Treasurer between 1956 and 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 discipline of physiology. The 2018 Daggs Awardee is Hannah Carey, an APS Past-President.

Carey received her B.S. degree from the State University of New York at Binghamton in 1977 and her PhD in zoology from the University of California at Davis in 1983. She did postdoctoral training at the Ohio State University and joined the faculty at the University of Wisconsin School of Veterinary Medicine in 1989. Carey's research interests revolve around understanding the mechanisms of nutritional adaptation in hibernating mammals. Her most recent work focuses on the gut microbiome in hibernation. She has published over 100 manuscripts in excellent journals in the field.

Most importantly for this award, Carey has had a distinguished career of service to the American Physiological Society and to science in general. As is well known to the Council, she served as the Society's President from 2007 to 2008. Her path to



APS President Dennis Brown presents the Ray G. Daggs Award to Hannah V. Carey

president is marked by a vast amount of APS committee service, including Chair of the Committee on Women in Physiology, Chair of the Membership Committee, Chair of the Committee on Committees, and Chair of the Communications Committee. She served on the International Advisory Board of IUPS and, of course, was a member of the APS Council. More recently, she was the APS representative to the FASEB Board of Directors. For FASEB, she also served on the Public Affairs and Science Policy Committee, and was Vice President for Science Policy. Most recently, she was elected to be FASEB's President-elect as of July 1.

Carey has provided service to numerous journals and granting agencies, including NIH and NSF, where she served as Program Director from 2010 to 2011, working in the Division of Integrative Organismal Systems within the Biology Directorate. She was the North American Editor of the *Journal of Comparative Physiology B*. Carey has served on the editorial boards of five APS journals. She has been honored by several sections of APS, which includes the GI and CEP sections.

B. Arthur C. Guyton Educator of the Year Award

The Arthur C. Guyton Physiology Teacher of the Year Award is selected by the Teaching Section and is supported by Elsevier. This award recognizes a full-time faculty member who has demonstrated excellence in classroom teaching, commitment to the improvement of physiology teaching, and contributions to physiology education at the local community, national, or international levels. This year, the recipient of the Guyton Educator of the Year Award is Jonathan D. Kibble (University of Central Florida).

C. Dale Benos Early Career Professional Service Award

The Early Career Professional Service Award honors an APS member who is judged to have made outstanding contributions to the physiology community and furthering its broader goals. This award was established to recognize the late Dale Benos, the Society's 79th President, Chair of Physiology at the University of Alabama, Birmingham, and a distinguished physiologist. The award recognizes Dale's dedication and commitment to excellence in the training and mentoring of young physiologists and colleagues. APS is pleased to recognize Patricia Halpin (University of New Hampshire) as the 2018 Awardee. Christopher Banek, Chair of the Trainee Advisory Committee, assisted the President in presenting the award.

D. S&R Foundation Ryuji Ueno Award

The S&R Foundation Ryuji Ueno Award was established in 2007 by the American Physiology Society through the generous support of Ryuji Ueno and Sachiko Kuno and the S&R Foundation. Ryuji Ueno and Sachiko Kuno are founders of Sucampo Pharmaceuticals and the S&R Foundation, both in Bethesda, MD. This award recognizes an APS member who has demonstrated outstanding research promise. The award is given annually to an early career physiologist demonstrating outstanding promise in research in wound healing, tissue remodeling, and/or organ regeneration. The award of \$30,000 is designated for the awardee's research program. APS is pleased to recognize this year's awardee, Eitaro Aihara (University of Cincinnati).

E. Beverly Petterson Bishop Award for Excellence in Neuroscience

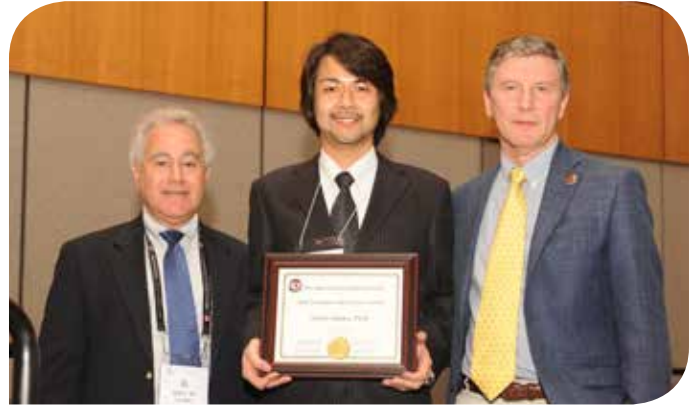
The Beverly Petterson Bishop Award recognizes excellence in neuroscience/neurophysiology research. The award is given to an investigator who holds an academic rank no higher than assistant professor. The award is presented annually to an individual demonstrating outstanding promise based on his/her program in neuroscience/neurophysiology research. Each recipient receives a \$20,000 award designated for use in their research program. APS is pleased to recognize Scott Edwards (LSU Health Sciences Center).

F. Giles F. Filley Memorial Awards

As a result of a bequest from the family of Giles F. Filley, a memorial fund was established to recognize excellence in research in respiratory physiology and medicine. Two annual awards of \$16,000 are made to junior faculty members (at an academic rank no higher than assistant professor). APS is pleased to recognize this year's awardee, Adrienne Huxtable (University of Oregon).

G. Arthur C. Guyton Award for Excellence in Integrative Physiology and Medicine

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 an independent, junior investigator pursuing research that uses integrative approaches to the study of physiological function and explores the role of feedback regulation in physiological



APS President Dennis Brown (*right*) and President-Elect Jeff Sands (*left*) present the S&R Foundation Ryuji Ueno Award to Eitaro Aihara (*middle*)

function. The award is for \$30,000 and is designated for use in the awardee's research program. This year's awardee is Lauro Vianna (University of Brasilia).

H. Lazaro J. Mandel Young Investigator Award

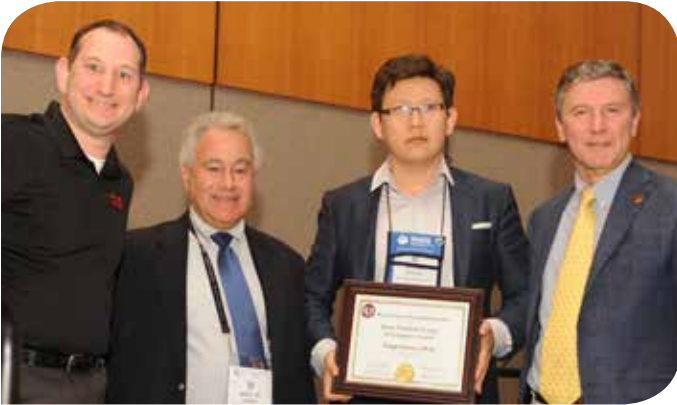
As a result of a bequest from the wife of Lazaro J. Mandel, a memorial fund was established to recognize excellence in epithelial or renal physiology. An award is made to a junior faculty member who has demonstrated outstanding research promise. The award is \$9,500 and is designated for use in the awardee's research program. This year's awardee is Aaron Polichnowski (East Tennessee State University).

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 to recognize excellence in physiology. An annual award is made to a junior faculty member who has demonstrated outstanding research promise. The award of \$10,500 is designated for the use in the awardee's research program. APS is pleased to recognize this year's awardee, Colin Young (The George Washington University).

J. Dean Franklin Young Investigator

The Dean Franklin Young Investigator Award was established by Data Sciences International (DSI) to recognize Franklin's role in developing instrumentation to monitor physiological function in conscious animals and humans. The award recognizes a postdoctoral scientist or junior faculty member who is pursuing in vivo physiological research and is in the process of establishing



APS President Dennis Brown, President-Elect Jeff Sands, and Dan Singer (*right*) from DSI present the Dean Franklin Investigator Award to Tengis Pavlov

an independent laboratory. The award recipient receives a travel award of \$1,500 to attend the annual EB meeting to present his/her work and a DSI instrumentation starter kit valued at approximately \$20,000. Dan Singer and Mariko Austin of DSI joined Brown to recognize this year's awardee, Tengis Pavlov (Henry Ford Health System).

K. ADI Macknight Progressive Educator Award

The ADInstruments Macknight Progressive Educator Award is named in honor of Anthony Macknight, an APS member since 1978 and founder of ADInstruments. The award honors an APS member who incorporates innovative teaching techniques and technology resources to engage undergraduates in physiology education. The awardee receives a \$1,500 travel award to attend the EB meeting and an institutional grant providing the award recipient's institution with a PowerLab LabTutor Physiology Teaching Bundle or equivalent. This year, the Society is pleased to recognize Anne Crecelius (University of Dayton) as the ADInstruments Macknight Progressive Educator Awardee.

L. Physiologists in Industry Committee Awards

The Translational Research Awards were established in 1999 and are given to a graduate student and to a postdoctoral fellow submitting the best abstracts describing novel disease models. This award is sponsored by the Physiologists in Industry Committee and by Novo Nordisk Beijing. The recipient of this year's postdoctoral award is Paramita Pati (University of Alabama at Birmingham), and the recipient of this year's predoctoral award is Jianxiang Xue (University of South Florida).



APS President Dennis Brown and President-Elect Jeff Sands present the ADInstruments Macknight Early Career Innovative Educator Award to Anne Crecelius

M. International Early Career Physiologist Travel Awards

The International Early Career Physiologist Travel Award program was established in 2008 to assist with travel expenses for international early career physiologist who are attending the APS Annual Meeting at EB to present their work. This year's awardees are:

Karla Garcia-Pelagio (Universidad Nacional Autonoma De Mexico, Mexico), *Erika Iwamoto* (Sapporo Medical University, Japan), *Beibei Luo* (Shanghai University of Sport, China), *Chitaranjan Mahapatra* (Indian Institute of Technology Bombay, India), *Sophie Moller* (University of Copenhagen, Denmark), *Luis Gustavo Patrone* (Sao Paulo State University, Brazil), *Marcelle Paula-Ribeiro* (Federal University of Sao Paulo, Brazil), *Jean-Philippe Rousseau* (Universite Laval, Canada), *Adam Russell-Hallinan* (University College Dublin, Ireland), *Jeann Sabino-Carvalho* (University of Brasilia, Brazil), *Andre Teixeira* (University of Brasilia, Brazil), *Alyssa Weinrauch* (University of Alberta, Canada), *Calum Wilson* (University of Strathclyde, United Kingdom).

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 Susan Marsh. This year's fifty 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 receive a \$500 check and paid registration.

O. Fleur Strand Professional Opportunity Awards

The Fleur L. Strand Award was established to recognize the achievements of a graduate student or postdoctoral fellow, enabling the recipient to attend the EB meeting. The award is named in honor of the late Fleur Strand, formerly Professor Emerita, New York University. Strand was the first to show that stress-evoked hormones such as ACTH can have a direct effect on peripheral systems, independent of the adrenal gland. The award is open to a physiologist working in any area of research. The awardee receives \$1,000 and complimentary registration for the EB meeting. APS is pleased to recognize this year's awardee, Melissa Linden (Colorado State University).

P. Steven M. Horvath Professional Opportunity Awards

The Steven M. Horvath Award is given to the top two applications from minority candidates. This award is a reflection of 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. APS is pleased to recognize this year's awardees, Austin Robinson (University of Delaware) and Denisha Spires (Medical College of Wisconsin).

Q. Recognition of Outgoing Section Chairs

Michael S. Hedrick (Chair of Comparative & Evolutionary Physiology Section), Carmen Hinojosa-Laborde (Chair of the Water & Electrolyte Homeostasis Section), Eric Lazartigues (Chair of Neural Control & Autonomic Regulation Section), Michael Hedrick (Chair of Comparative & Evolutionary Physiology Section), and Declan McCole (Chair of the Gastrointestinal & Liver Section) completed their terms at the close of the EB18 meeting. Brown thanked them for their service to their sections and to APS, and presented them with certificates of service.

R. Recognition of Outgoing Committee Chairs

Robert Brock (Chair of the Membership and FAPS Committee), Erica Dale (Chair of the Trainee Advisory Committee), Paul Davenport (Chair of the Perkins Memorial Award Committee), and Caroline Rickards (Chair of the Women in Physiology Committee) completed their terms on December 31, 2017. Brown thanked them for their service to their respective committees and to APS, and presented them with certificates of service.

S. Recognition of Outgoing Councillors

Councillors David Gutterman (Medical College of Wisconsin), Lisa Leon (U.S. Army Research Institute of Environmental Medicine), and Irene C. Solomon (Stony Brook University) completed their terms at the close of the EB18 meeting. Brown thanked them for their service to the Society and presented them with a certificate.

T. Recognition of Past President Jane Reckelhoff

Brown asked the membership to join him in offering a special thank you to outgoing Past-President Jane Reckelhoff for her hard work and dedication to APS over the past 3 years.

Says Brown: "Janie has led the society through a time of great transition. She played a central role in the implementation of a forward-looking strategic plan, and most recently spent countless and grueling hours serving on the search committee for the new executive director to follow Marty Frank. Her wisdom and insights have guided me through my year as president, and for that I am deeply grateful. I will miss working with her over the next year as I move into the past-president role, but I hope that she will find other ways to continue to serve APS as she has done so effectively and vigorously in the past. Her most visible role was of course as a member of the executive council, but she has worked behind the scenes on innumerable committees, task forces, and editorial boards to help further the mission of the society. The APS owes Janie a considerable debt of gratitude for her unselfish volunteering on behalf of our thousands of members. I hope she will now have more time to focus her efforts on her outstanding scientific program at the University of Mississippi, Jackson. But Janie, please don't be a stranger—we need people like you to help the society navigate challenges and exciting opportunities that we will encounter as we move forward under new leadership."

VI. Passing of the Gavel

Brown then passed the gavel to Jeff Sands (Emory University), with his sincere commitment to support Sands in his work to achieve the goals as incoming President of the American Physiological Society.

VII. New Business

No new business.

Brown stated that Marty Frank will retire on June 30, 2018, from the APS after 33 years as executive director. During his time at APS, Frank has overseen growth in many areas, including increases in the Society's member base and in its ability to support researchers working in the discipline of physiology. Some of his significant accomplishments include building a strong advocacy program for animal research, transitioning the APS family of journals from print to online, and developing an undergraduate research program that has attracted students to physiology research careers. Frank has worked tirelessly to advance inclusion and diversity within APS. In recognition of his efforts, the Council approved a proposal to name the Society's Minority Travel Fellowship Program in his honor. In the future, the program, which was started by Frank in 1987, will be called the Martin Frank Minority Travel

Fellowship Program. Marty, on behalf of the Council and the membership, thank you for your 33 years of service to the Society. We all wish you well in your retirement.

Brown said before he adjourns the meeting, he would like to take this opportunity to introduce the Society's new executive director, Scott Steen, who will be succeeding Marty Frank. Steen came to the podium and indicated that he was excited to become the Society's next executive director and looked forward to building on the programs initiated and developed during Marty's tenure.

There being no new business, the meeting was adjourned at 6:34 PM, April 24, 2018.

Jeff Sands
President-Elect



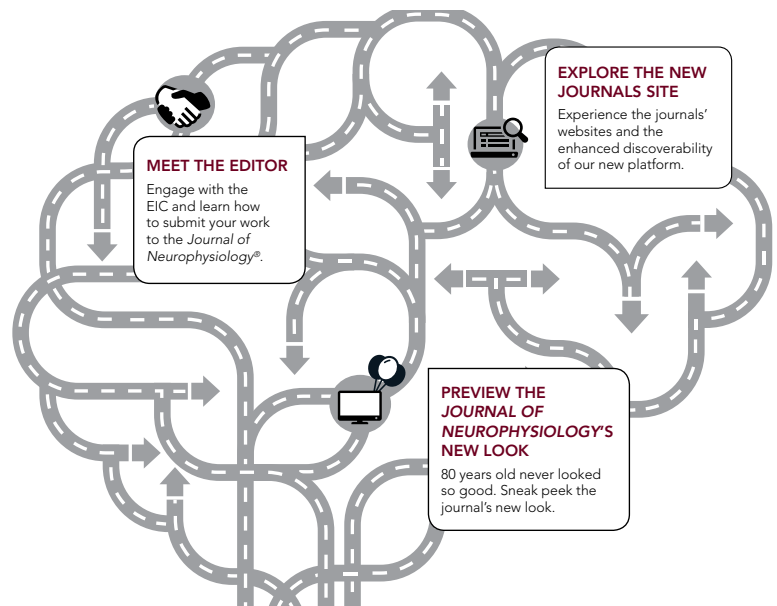
APS President Dennis Brown and President-Elect Jeff Sands present the Presidential Recognition Plaque to Jane Reckelhoff, APS Past President



APS President Dennis Brown passes the gavel to President-Elect Jeff Sands

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Positions Available

Assistant Professor: Lincoln Memorial University (LMU) invites applications for the position of Assistant Professor of Biology, Anatomy and Physiology (doctorate required) *Required:* Terminal degree (PhD) in Human or Comparative Anatomy and Physiology or equivalent professional preparation; educational preparation in accordance with requirements of the University and the Southern Association of Colleges and Schools; and evidence of potential for effective teaching, academic advising, and scholarly activity. Applications must be submitted through the applicant portal, located on the Lincoln Memorial University Job Openings page. An application is not considered complete until official transcript(s) from each institution(s) attended have been received by susan.owens@lmunet.edu or Lincoln Memorial University, 6965 Cumberland Gap Pkwy., Harrogate, IN 37752, ATTN: Susan Owens. Contact Susan Owens at 423-869-7157 or susan.owens@lmunet.edu for questions regarding employment opportunities. For benefits-eligible employees, LMU offers a high-quality benefits package, including medical and voluntary benefits and an employer-funded retirement plan. LMU's hiring policies are in accordance with EEO regulations and policies. LMU is committed to diversity and is an equal opportunity employer. Women and minorities are strongly encouraged to apply.

Leadership Position: The Department of Physiology at the University of Tennessee Health Science Center (UTHSC) invites applications and nominations from nationally and internationally renowned individuals for the position of Eldon D. & Ruth Connell Endowed Chair Professor of Diabetes Research. The Department of Physiology at UTHSC was recently ranked ninth out of all Physiology Departments in North America for total research funding. Current areas of research within the Department include cardiovascular disease, diabetes, gastrointestinal disease, cancer, neurodegenerative diseases, and ion channels. Outstanding collaborative opportunities and excellent resources are available in the Department of Physiology and the Division of Endocrinology at the UTHSC. In addition to the endowed chair fund, this position comes with a competitive start-up package. The occupant of the Connell Endowed Chair will assume a leadership role in diabetes research on the UTHSC campus. The qualified candidate will have an outstanding record of research accomplishments and significant extramural funding. He/she is expected to maintain a vigorous, creative, externally funded research program that compliments that of current

faculty and builds on departmental strengths. Applicants are expected to be leaders in the field of diabetes research with an internationally recognized research program that is supported by robust extramural funding. The successful candidate will have an outstanding opportunity to develop collaborative research programs across the UTHSC campus. Applicants must have a PhD, MD, or equivalent degree. Applicants should submit a cover letter of interest, complete CV, summary of research accomplishments and goals, and names and contact information of five references to the Search Committee Chair, Jonathan H. Jaggar, PhD, Maury W. Bronstein Endowed Professor (jjaggar@uthsc.edu). This position will remain open until filled. The University of Tennessee is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA employer.

Postdoctoral Fellow: Postdoctoral research fellowship positions are available immediately on an NIH-funded T32 training grant. The Training Program in Physiology and Biomedical Engineering trains the next generation of biomedical researchers in physiology and biomedical engineering. This multidisciplinary training program is designed for postdoctoral candidates who are interested in the broad area of respiratory physiology and biomedical engineering. The primary objectives of the program are to train individuals for careers in biomedical research related to lung physiology and disease. The training program is based in the Department of Physiology and Biomedical Engineering under the direction of Gary Sieck, PhD and Y.S. Prakash, MD, PhD, and has over 20 NIH faculty with well-equipped labs. Training grant faculty are members of both basic science and clinical departments. They represent a wide range of expertise and ongoing research activities. Postdoctoral research training in their labs will provide the opportunity for training in a number of state-of-the-art research techniques and tools. In addition to contributing to ongoing research projects, postdoctoral fellows will receive training in the critical evaluation of existing literature, data collection and analysis, manuscript preparation and submission, and grant preparation. These activities will be geared to further the skill set of trainees in research and foster their abilities for a successful career in academia or industry. Candidates must have a PhD or MD, or equivalent doctoral degree and be a U.S. citizen or permanent resident. Qualified individuals must have backgrounds that demonstrate their potential for research training and their competitiveness for national research grants. A track record of prior peer-reviewed publications is required. Please contact Gary Sieck, PhD for more information. Office: 507-284-6850; e-mail: sieck.gary@mayo.edu.

Postdoctoral Fellow: USARIEM, located in Natick, Massachusetts, is an internationally recognized center of excellence for health and performance science and its applications. The Institute functions as a world-class laboratory for environmental medicine, physiology, and nutrition research. The Military Nutrition Division (MND) conducts research on nutritional issues affecting the health and mission-readiness of military personnel, and supports the U.S. Army Surgeon General's responsibilities as the Department of Defense's executive agent for nutrition research. Ongoing studies within the MND have highlighted the integrative effects of diet composition, exercise, and hormonal status on muscle mass and performance during strenuous military operations. MND is seeking a postdoctoral fellow to expand this line of research and execute randomized controlled trials that examine nutrition, exercise, and pharmacological interventions to identify effective biomedical performance enhancement strategies for warfighters exposed to military operational stress. Candidates should have recently earned a doctoral degree in the nutritional sciences, exercise physiology, or a closely related field. Demonstrated proficiency with written and oral communication, and exemplary organizational skills required. Experience conducting nutrition- and exercise-based interventions with human populations preferred. The fellowship may be administered by the Oak Ridge Institute for Science and Education (ORISE) and may be renewed for up to 3 years. U.S. citizenship and travel are required. The fellowship may also be administered through direct commission as a U.S. Army Medical Service Corps Officer with an emphasis on physiology and biochemistry. Contact: Stefan M. Pasiakos, PhD, FACSM, 508 233-6474; e-mail: Stefan.m.pasiakos.civ@mail.mil.

Postdoctoral Fellow: As part of an exciting expansion of research within the Pulmonary Division of the Indiana University School of Medicine, a new postdoctoral position is available in the laboratory of Dr. Tim Lahm to study the molecular basis of pulmonary hypertension, with an emphasis on angiogenesis and sex differences. In particular, the Lahm lab focuses on understanding the role of sex hormones in lung vascular remodeling, right ventricular hypertrophy, and angiogenesis. Research opportunities include characterizing the role of estrogen receptor signaling in right ventricular cardiomyocytes and endothelial cells, and studying mechanisms of angiogenesis in the lung and right ventricle. Research

in the Lahm lab spans a wide range of models and techniques, and ranges from molecular investigations in cultured cells to characterizing hemodynamic and exercise endpoints in vivo. The Division provides a highly collaborative environment that includes shared core facilities and joint research meetings. Our genomics and bioinformatics facilities include state-of-the-art single-cell sequencing and high-performance computing. An NIH-funded T32 Training Program is in place. Detailed information is available on our website: <https://medicine.iu.edu/faculty/4963/lahm-tim/>

Postdoctoral Fellow: What if your career could change your life? Perhaps you imagine being part of a team where your colleagues inspire you to stretch and grow beyond your boundaries. Maybe you are looking for a purpose in life that gives you an opportunity to be part of a lasting legacy. Mayo Clinic has a legacy of inspiring hope and contributing to health and well-being by providing the best care to every patient through integrated clinical practice, education, and research. You'll discover a culture of teamwork, professionalism, and mutual respect—and most importantly—a life-changing career. The gut microbiome laboratory at Mayo Clinic, Rochester, MN seeks a highly motivated and creative postdoctoral research scientist with experience in gastrointestinal physiology, who is interested in investigating host-microbiome interactions. Successful applicant will have a PhD cellular physiology, neuroscience, molecular biology, or a related field, a strong publication record, good command of written and spoken English, and the ability to design and conduct experiments independently. The applicant should be comfortable handling animals and a prior experience in techniques of cell and tissue physiology, molecular biology, immunocytochemistry, microscopy, and cell culture is preferred. Our laboratory is interested in understanding the effect of microbe-microbe, microbe-host, and diet-microbe interactions on host gastrointestinal physiology. We employ a combination of gnotobiotic models, targeted and non-targeted metabolomics, meta-transcriptomics, and metagenomics, in addition to in vitro and in vivo physiological methods. Applicants must have a PhD, MD, or equivalent doctoral degree in a field deemed relevant by the program. Research Fellow is appropriate for individuals who have completed no more than one prior postdoctoral fellowship at Mayo Clinic or elsewhere. Please attach the following required documents at the time of application: 1) current curriculum vitae and

bibliography; 2) three letters of recommendation, signed, on letterhead, describing: relationship to the applicant, past work/academic performance, work qualities/personal conduct; overall assessment of potential for success in research environment; 3) doctoral degree certification, if applicable: original or notarized copy of diploma or final transcript issued by school (English translation required). Please visit mayocareers.com/APS to learn more. Learn and grow among the best in your field at the nation's top hospital (*U.S. News & World Report*, 2017–2018), ranked no. 1 in more specialties than any other care provider. At Mayo Clinic, you'll use the power of collaboration to achieve the highest standards for medical care and health improvement, working in the largest integrated, not-for-profit medical group practice in the world with over 60,000 employees. You're invited to contribute to a unique environment that brings together the best in patient care, groundbreaking research, and innovative medical education. Being a part of Mayo Clinic allows for more work-life balance, competitive compensation and generous benefits, career security, and the ability to manage and coordinate patient care in the most efficient ways possible. Post offer/pre-employment drug screening is required. Mayo Clinic is an equal opportunity educator and employer (including veterans and persons with disabilities).

Postdoctoral Fellow: Postdoctoral research trainee positions are available immediately on an NIH-funded T32 Training Program in Lung Research. This multidisciplinary training program is aimed at postdoctoral candidates who are interested in multiple issues relating to lung biology, with emphasis on the alveolar macrophage, epithelial and endothelial mitochondria, development, optical imaging of the live lung, bioengineering, and T cells. The objectives of the program are to train individuals for careers in biomedical research in lung biology and pulmonary medicine. The Training Program is based in the Division of Pulmonary and Critical Care Medicine in the Department of Medicine, under the direction of Jahar Bhattacharya, MD, DPhil. The program includes 20 NIH-funded, world-class faculty in state-of-the-art facilities. The postdoctoral research training will provide an outstanding opportunity for acquiring cutting-edge expertise. Trainees will be trained in the critical evaluation of the literature, data collection and analysis, manuscript preparation, and grant writing. The world-class academic environment at Columbia University Medical Center will foster skill sets

required for success in academia or industry. Candidates must commit to at least 2 years of training and a career in academia or industry in the posttraining period. They must possess an MD, PhD, or equivalent degree, and must be green card holders or U.S. citizens. Interested applicants may e-mail curriculum vitae and the names of three references to Rashmi Patel, Administrator, T32 Program in Lung Research, Columbia University, 630 West 168th St., BB 17-1705, New York, NY 10032 or e-mail: rnp2105@cumc.columbia.edu. The T32 Program Director may be contacted by phone (212-305-7310) or e-mail: jb39@cumc.columbia.edu. Applications are invited for a postdoctoral position in lung research in the Lung Biology Lab at the Columbia University Medical Center. The candidate will be trained in optical imaging of the live lung as also in multiple other research approaches in lung immune biology. The Lab's ongoing projects address basic mechanisms of lung injury with focus on mitochondria, alveolar macrophages, and barrier regulation. The applicant should have knowledge of mammalian systems, and experience with animal surgery, molecular and cell biology including cloning, and standard approaches in protein chemistry. A background in mitochondria or macrophages will be attractive. Candidates must have a PhD or an equivalent qualification. Interested applicants may e-mail curriculum vitae and the names of three references to Rashmi Patel, Administrator, at rnp2105@cumc.columbia.edu. Columbia University is an affirmative action/equal opportunity employer.

Postdoctoral Fellow: Applications are invited for an NIH-funded postdoctoral research associate position in the laboratory of Dr. Nina Stachenfeld at The John B. Pierce Laboratory, with co-terminus appointment in the Yale School of Medicine. Dr. Stachenfeld's NIH-funded studies focus on blood pressure regulation in women. These studies address the role of sex steroids in blood pressure dysregulation in women with reproductive and metabolic disorders, including polycystic ovary syndrome. Our current emphasis is on testosterone effects on autonomic blood pressure regulation using pharmaceutical, lower body negative pressure, and microneurography strategies in humans. This project provides a unique opportunity to collaborate in a multicenter grant that also includes animal models and molecular strategies. Our program provides a rich environment with access to workshops, seminars, and all training and career mentoring programs available through the Pierce Laboratory and through the Yale School of Medicine and University systems.

We emphasize team and individualized mentoring to maximize our trainees' success toward an independent career. The successful candidate should have strong motivation, good communication skills, and the ability to work independently. Candidates with prior experience in human cardiovascular research are encouraged to apply. Prior experience with microneurography in humans is highly desirable, but not necessary. Required qualifications include a PhD or foreign equivalent. The salary is commensurate with experience according to the NIH published postdoctoral stipend levels. The postdoctoral associate will be expected to participate in experimental design, data collection, analysis and interpretation, and preparation of oral and scientific reports. Review of applications will begin immediately until the position is filled. To apply, interested candidates should submit a single PDF file including 1) a cover letter with a statement of research experience and interest; 2) curriculum vitae; and 3) a list of three references to Dr. Stachenfeld (nstach@jbpierce.org). For additional questions and/or information, please contact Nina Stachenfeld (nstach@jbpierce.org). The John B. Pierce Laboratory is a nonprofit, independent research institute that is formally affiliated with Yale University. Founded in 1933 and housed in its own three-story Georgian-style building directly across the street from the Yale School of Medicine, the Pierce Laboratory affords a unique environment for interaction and collaboration among scientists within the Laboratory and in the surrounding Yale community. The Laboratory has a long and distinguished history as a leading center for the study of physiological regulatory systems, such as those that maintain body temperature, respiration, body fluids, and metabolism within healthy limits. We continue these studies in today's environment to address major public health concerns including obesity, Type 2 diabetes, and cardiovascular disease. The Pierce Laboratory seeks employees who support the research and public service mission of the laboratory. The John B. Pierce Laboratory is

an equal employment opportunity employer that does not unlawfully discriminate in any of its programs or activities on the basis of race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity or expression, or on any other bases prohibited by applicable law.

Postdoctoral Fellow: One postdoctoral position is immediately available in the laboratory of Dr. Carie R. Boychuk in the Department of Cellular and Integrative Physiology at UT Health San Antonio (<http://physiology.uthscsa.edu/>). Candidates should be interested in investigating the synaptic mechanism(s) by which vagal motor output regulates peripheral organ function. *Research:* The Boychuk Lab focuses on 1) the role of vagal motor output in the regulation of glucose homeostasis and the autonomic complications that can arise when this system is dysregulated and 2) the influence of reproductive hormones on that regulation of vagal output. To address these issues, we use physiological testing, brain micromanipulations, electrophysiology, and molecular biology. *Qualifications:* We are looking for highly motivated and enthusiastic talents. The candidate should have excellent communication skills, be self-motivated, a quick-learner, and importantly a team player. Experience in working with mice or rats and whole-cell patching is preferred, but training is provided. Minimum requirements are PhD or MD. Applicants who anticipate to defend their thesis in the near future are also encouraged to apply. For more information go to <https://physiology.uthscsa.edu/team-member/carie-r-boychuk-ph-d/>. Please send CV, including education list, publication list, and at least three names and e-mail addresses of references as a PDF to Dr. Carie Boychuk (boychukc@uthscsa.edu). All postdoctoral appointments are designated as security-sensitive positions. The UT Health San Antonio is an equal employment opportunity/affirmative action employer, including protected veterans and persons with disabilities.

Meetings & Congresses

2018

September 3–6

XXXIII FeSBE's Annual Reunion, Campos do Jordiao, San Paulo, Brazil. Information: Internet: <https://www.facebook.com/pg/FeSBE-Federação-de-Sociedades-de-Biologia-Experimental-328745400486246/posts/>

September 5–8

2018 Integrative Physiology of Exercise Conference, San Diego, CA. Information: Internet: https://members.acsm.org/ACSM/Events/Event_Display.aspx?EventKey=IPE2018

September 5–8

8th International Congress of Pathophysiology, Bratislava, Slovakia. Information: internet: <http://www.icp2018.com>

September 9–13

11th World Congress for Microcirculation, Vancouver, Canada. Information: Internet: <https://www.wcm2018.org/QuickEventWebsitePortal/11th-world-congress-for-microcirculation/wcm2018>

September 14–16

Europhysiology 2018, London, England. Information: Internet: <https://www.europhysiology2018.org/programme>

September 22–24

International Conference on Spreading Depolarizations, Boca Raton, FL. Information: e-mail: info@cosbid.org; Internet: <http://www.cosbid.org/icsd>

September 30–October 3

Cardiovascular, Renal and Metabolic Diseases: Gender-Specific Implications for Physiology on Sex and Gender, Knoxville, TN. Information: internet: <http://www.the-aps.org/sexgender>

September 30–October 3

The 9th Santorini Conference: Systems Medicine and Personalised Health & Therapy, Santorini, Greece. Information: Internet: <http://santoriniconference.org/>

October

The 17th International Biochemistry of Exercise Conference (IEBC), Beijing, China. Information: Organized by the Chinese Association of Exercise Physiology and Biochemistry.

October 1–2

12th International Conference on Endocrinology, Diabetes and Metabolism, Osaka, Japan. Information: Internet: <https://endocrinology.conferenceseries.com/asiapacific/>

October 12–13

Fueling Innovation: Public Programs Driving Drug Discovery, Bethesda, MD. Information: Internet: <https://www.aspet.org/aspnet/meetings-awards/other-meetings/past-meetings/2017-academic-drug-discovery-colloquium>

October 18–21

34th World Congress of Internal Medicine, Cape Town, South Africa. Information: internet: <http://www.wcim2018.com>

October 25–28

Intersociety Meeting. Comparative Physiology: Complexity and Integration, New Orleans, LA. Information: internet: <http://www.the-aps.org/comparative>

November 8–9

11th Edition of the International Conference: ICT for Language Learning, Florence, Italy. Information: Internet: <https://conference.pixel-online.net/ICT4LL/index.php>

2019

April 6–9

Experimental Biology, Orlando, FL.

June 10–13

14th FELASA Congress, Prague, Czech Republic. Information: Internet: <http://www.felasa2019.eu/>

June 23–29

2019 Control of Renal Function in Health and Disease, Charlottesville, VA.

September 2019

2019 The Interface of Mathematical Models and Experimental Physiology: Organ Function from the Microvascular Perspective, Scottsdale, AZ.

October 2–5

2019 9th Annual International Conference of Aldosterone and ENaC in Health and Disease: The Kidney and Beyond, Estes Park, CO.



Meetings and Conferences

**2018 Cardiovascular, Renal and Metabolic Diseases:
Sex-Specific Implications for Physiology**
September 30–October 3, 2018 • Knoxville, TN

**2018 Intersociety Meeting,
Comparative Physiology: Complexity and Integration**
October 25–28, 2018 • New Orleans, LA

APS Annual Meeting at Experimental Biology 2019
April 6–9, 2019 • Orlando, FL

2019 Control of Renal Function in Health and Disease
June 23–29, 2019 • Charlottesville, VA

**2019 The Interface of Mathematical Models and Experimental Physiology:
Organ Function from the Microvascular Perspective**
September 11–14, 2019 • Scottsdale, AZ

**2019 9th Annual International Conference of Aldosterone and ENaC in Health
and Disease: The Kidney and Beyond**
October 2–5, 2019 • Estes Park, CO

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University of Toronto

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