I am pleased to report that the Department of Physiology at the Medical College of Georgia (MCG) at Augusta University had another great year. We are currently ranked 26 out of 81 on the National Institutes of Health (NIH) Blue Ridge Institute for Medical Research. We were ranked 39 last year, so this is an incredible achievement by our faculty, postdoctoral fellows, and students. Our faculty continues to be active in international societies, scientific committees and editorial boards and have outstanding research programs. Our postdoctoral fellows and students are also contributing as highly productive members of the department, and this reflects favorably on the mentorship by our faculty.

Below is an extraordinary range of academic activities that will be of interest to our readers from the past year:

Philanthropic investment grew this past year and it contributes to the greatness of our department.

Dr. Yemin Zhang is a visiting scientist in my lab from Wuhan University. She is the recipient of a Chinese State Fellowship Award from the Chinese Scholarship Council. Congratulations and farewell to Dr. Adviye Ergul who will be joining the faculty at the Medical University of South Carolina. In 2018, she became the second MCG faculty member to receive a Senior Research Career Scientist Award from the Veterans Association (VA). Adviye has been with MCG for eighteen years, with her eleven-year tenure in the Department of Physiology being way too short.

In April 2018, Dr. Ruth Harris received a Regents’ Professorship of the University System of Georgia. This is the highest academic recognition given by the Board of Regents and it reflects on her scholarship and numerous accomplishments. She currently serves as the elected President of the international Society for the Study of Ingestive Behavior. Congratulations, Ruth.

Dr. Jennifer Sullivan received two prestigious awards this year: the Mid-Career Award for Research Excellence from the Council on Hypertension from the American Heart Association (AHA) and the John Laragh Research Award from the American Journal of Hypertension (AJH). The AHA award recognizes a mid-career investigator active in hypertension or cardiovascular research. Candidates include PhDs and/or MDs who are still within 10 years after their first faculty appointment, as of the award application date. The AJH award honors an exemplary investigator in hypertension research under the age of 45.

Finally, I am privileged to share with you that I was honored by the Council on Hypertension of the AHA this year with the Excellence Award for Hypertension Research. This award, sponsored by Novartis, was initiated in 1966 and honors excellence in research and discoveries in the field of hypertension. Recipients are selected based on their impact on the field of hypertension throughout their career.

I am truly delighted to serve as chair of this department and to champion our history and future.
**Department Spotlights**

Drs. Wendy Bollag, Mike Brands, Anthony Payne, and Mong-Heng Wang received 2017 Medical College of Georgia (MCG) Exemplary Teaching Awards.

Dr. Wendy Bollag received an Institutional Service Award from MCG. Dr. Bollag was invited (and accepted the invitation) to become a Senior Editor for the Journal of Endocrinology and the Journal of Molecular Endocrinology. Dr. Bollag was honored as a World Famous Visiting Scientist to Jianghan University in China. Dr. Bollag’s Pilot Study Research Program application entitled “Effects of Monomethylfumarate, a Nrf2 Activator, on Bone Formation and Bone Mass” was awarded.

Dr. Weiguo Li was awarded a National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Diabetic Complications Consortium Pilot and Feasibility grant.

Dr. Rawipan Uaratanawong, a visiting scholar in Dr. Wendy Bollag’s laboratory, won a travel award to the Southern Translational Education and Research Conference in Augusta, Georgia that was held in September 2017.

Dr. Hongyi Zhou was granted a Career Development Award from the American Heart Association for his project “Neddylation in Adipose Tissue Development and Obesity.”

**Faculty Promotions**

- **Dr. Weiqin Chen**  
  Associate Professor

- **Dr. Ruth Harris**  
  Regents’ Professor

- **Dr. Jennifer Sullivan**  
  Professor

**Welcome New Faculty!**

- **Dr. Zsolt Bagi**  
  Associate Professor  
  Research Faculty

- **Dr. Istvan Csikora**  
  Assistant Research Scientist  
  Research Faculty

- **Dr. Weiguo Li**  
  Assistant Research Scientist  
  Research Faculty

- **Dr. Fernanda Priviero**  
  Assistant Research Scientist  
  Research Faculty

- **Dr. Aaron Roseberry**  
  Assistant Professor  
  Georgia State University Adjunct Faculty

- **Dr. LaShon Sturgis**  
  Assistant Professor  
  Affiliated Faculty

- **Dr. Hongyi Zhou**  
  Assistant Research Scientist  
  Research Faculty

**Alumni Spotlights**

Dr. Virendra Mahesh, Professor and Chair Emeritus, was recently awarded the President’s Award, the highest award given by Augusta University.

Dr. Brett Mitchell, a former Graduate Student, was selected as the 2018 Distinguished Alumnus from The Graduate School. Dr. Mitchell is an Associate Professor of Physiology at Texas A&M University.

Dr. Margaret Zimmerman, a former Graduate Student, was recently promoted to Research Instructor at Tulane University and was accepted into the Louisiana Clinical and Translational Science Center Roadmap Scholars Program which focuses on moving translational researchers into clinical science.

“*I didn’t want to just know names of things. I remember really wanting to know how it all worked.*”

Dr. Elizabeth Blackburn  
Winner of the 2009 Nobel Prize  
for Physiology or Medicine

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**Current Academic and Professional Positions of Department Alumni**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Details</th>
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<tbody>
<tr>
<td>Amy Banes-Berell, PhD</td>
<td>Recently promoted to Associate Dean of the College of Arts and Sciences at Oakland University.</td>
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<tr>
<td>Trevor Hardigan, MD/PhD</td>
<td>Neurosurgery Resident at Mt. Sinai Hospital in New York City.</td>
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<tr>
<td>Takayuki Matsumoto, PhD</td>
<td>Recently promoted to Associate Professor at Hoshi University in Tokyo, Japan.</td>
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<tr>
<td>Cameron McCarthy, PhD</td>
<td>Postdoctoral Fellow at the University of Toledo College of Medicine and Life Sciences.</td>
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<tr>
<td>Ashlee Tipton, PhD</td>
<td>Scientific Review Officer at the National Center for Complementary and Integrative Health.</td>
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<tr>
<td>Rebecca Ward, PhD</td>
<td>Scientific Writer at Massachusetts General Hospital.</td>
</tr>
<tr>
<td>Camilla Wenceslau, PhD</td>
<td>Assistant Professor at the University of Toledo College of Medicine and Life Sciences.</td>
</tr>
<tr>
<td>Brandi Wynne, PhD</td>
<td>Assistant Professor at Emory University School of Medicine.</td>
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Each summer since 2010, the Physiology Postdoctoral Fellows (PPF) have organized the Physiology Summer Seminar Program which was coordinated this year by the acting PPF Chair, Ellen Gillis. PPF members and graduate students presented their recent data to an open audience formed by members of the Department of Physiology and outside guests.

**Physiology postdoctoral fellowships in the past five years:**

- Mohammed Abdelbary, PhD (2012-2016): American Heart Association Postdoctoral Fellowship
- American Heart Association Scientist Development Grant
- Jennifer Thompson, PhD (2013-2017): American Heart Association Postdoctoral Fellowship
- National Institutes of Health Pathway to Independence Award (K99/R00)
- Jennifer Sullivan, Dr. (2018-2020): American Heart Association Postdoctoral Fellowship
- Cameron McCarthy (2018-2020): American Heart Association Postdoctoral Fellowship
- Jennifer Thompson, PhD (2013-2017): American Heart Association Postdoctoral Fellowship, National Institutes of Health Pathway to Independence Award (K99/R00)
- Casey Derella—Dr. Ryan Harris
- Casey Belanger—Dr. Jennifer Sullivan
- Alec Davila—Dr. Zsolt Bagi
- Elinor Mannon—Dr. Paul O'Connor
- Patricia Martinez-Quinones, MD—Dr. Webb
- LaDonya Jackson—Dr. Adviye Ergul
- Jennifer Thompson, PhD (2013-2017): American Heart Association Postdoctoral Fellowship, National Institutes of Health Pathway to Independence Award (K99/R00)

The Department of Physiology graduate students were honored to host Dr. Lisa Cassis from the University of Kentucky as our fifteenth Virendra B. Mahesh Lectureship guest speaker. Dr. Cassis is an exemplary scholar and leader in the field of cardiovascular and metabolic disease with an impressive research and mentoring portfolio. During her visit, Dr. Cassis delivered a thought-provoking and timely lecture entitled "Mechanisms of Vascular Disease: Focus on Sexual Dimorphism." She also met with several faculty members across the campus, as well as our students, all of whom were excited to gain her unique perspective, insight, and career advice.

**Welcome our newest graduate students to the labs!**

We are excited to promote the academic success and professional development of this diverse set of students who have quite early on proven to be a bright, passionate, and dedicated group of young scientists.

- Olufanke Ariile—Dr. Clinton Webb
- Casey Belanger—Dr. Jennifer Sullivan
- Alec Davila—Dr. Zsolt Bagi
- Elinor Mannon—Dr. Paul O'Connor
- Patricia Martinez-Quinones, MD—Dr. Webb
- Lindsey Ramirez—Dr. Sullivan
- Sarah Ray—Dr. O'Connor
- Yanna Tian—Dr. Bagi

We are pleased to announce that our Physiology Trainees received 13 travel awards in the past year.
Dr. Filosa’s lab explores how high blood pressure hurts cognition

While much effort has been devoted to the understanding of mechanisms linked to activity-evoked changes in cerebral blood flow (CBF) namely, functional hyperemia and neurovascular coupling, less is understood about the processes controlling basal CBF and resting neuronal activity. Considering that chronic brain hyperperfusion contributes to cognitive impairments our group is interested in studying the cellular mechanisms by which changes in steady-state vascular tone, and thus, perfusion, affect resting neuronal function. Our central hypothesis is that constitutive mechanisms defining physiology vascular-glial-neuronal coupling are impaired in disease.

"Untreated hypertension can lead to cognitive impairment but exactly how it happens, we don’t really know," Dr. Jessica Filosa says. "We need to understand the window of change or shift in function in all these different cells. What exactly is happening, in what order, and how fast?"
PhUn Week

Trainees in the Department of Physiology at the Medical College of Georgia at Augusta University participated in the American Physiological Society’s annual Physiology Understanding (PhUn) Week. This year’s event took place at A. R. Johnson Health Science and Engineering Magnet School in Augusta, Georgia. The event was split into four interactive sections, including a lung experiment, heart rate activity, antacid experiment, and laparoscopy surgery demonstration. In the lung section, students performed an experiment to measure their lung volume. In the antacid activity, students tested various over-the-counter antacid treatments to determine their relative efficacy in neutralizing acid. In the heart rate activity, students first learned about heart rate, how to measure their own heart rates, and how it changes under different conditions. Finally, in the laparoscopy demonstration, two general surgery residents brought three laparoscopy practice set-ups to show the students how laparoscopic surgery is performed. Students were then able to try the equipment themselves. A total of 114 students participated, divided into four rotating groups of approximately 25-30 students. Overall, student participation and enthusiasm was high throughout the day. Furthermore, the event was well received by the principal and the lead teacher, and the Department of Physiology trainees have been asked to return next year for PhUn Week.

Mini-Symposium

Our second annual Mini-Symposium was another success. Dr. Mykola Mamenko coordinated the two-day event, themed “Immune system and inflammation as modulators of physiological function in health and disease.” The Department of Physiology strives to expand its research partnerships and enrich educational experiences. To reinforce this mission, the department established an annual mini-symposium in 2016. The scope of the event is defined by our faculty members based on its impact, innovation, and complementarity to the lines of scientific inquiry currently being pursued in the department.

The mini-symposium seeks to bring renowned experts in a given field of interest to Augusta, Georgia stimulating interactions with local researchers. The speakers this year were: Drs. Peter Doris (University of Tennessee Health Science Center at Houston), Suneil Koliwad (University of California), and David Mattson (Medical College of Wisconsin).

Our trainees benefit from this remarkable opportunity to share their findings, express concerns and receive feedback from established investigators at the poster session and in a less formal atmosphere during lunch with invited speakers. Importantly, the addressed issues extend far beyond the research in the laboratory. Career progress advice, life hacks, and experiences from the leaders in the field can be invaluable and, quite literally, life changing. The two-day forum culminates with an oral session, combining featured talks from the invited experts and presentations by local faculty with extensive discussions. The event is popular among the professionals throughout the Medical College of Georgia. Attendees from other universities are not uncommon and always welcome. Overall, the mini-symposium is an excellent educational and scientific platform that engages students, postdocs, faculty, and world-class invited speakers, fostering interdisciplinary communication and collaborations.

Community Spirit

For the past 18 winter holiday seasons, our staff has donated toys for patients at the Children’s Hospital of Georgia at Augusta University.

Champions of the first JagMag Magazine Challenge by donating the most magazines from any one department at Augusta University to support a positive patient experience.

Stay connected with us on Instagram!
Scan the QR code below or visit www.instagram.com/augustafizzology.
Physiology Graduate Student and Postdoctoral Fellow Endowment Fund

In addition to existing endowments, the Department of Physiology created a new strategic initiative in 2017. Specifically, we established a Graduate and Postdoctoral Training Endowment Fund with the goal of enhancing graduate student and postdoctoral training in the department. Awards from the endowment will be aimed at supporting travel to present at meetings, purchasing research supplies, or providing short-term bridge funding for completion of a dissertation. Successful implementation of this endowment will provide continuity of educational and research goals of the department.

The endowment was initiated with a $10,000 donation, and we are hoping to reach the $50,000 mark required to establish permanent endowment status by 2022. **We are asking for your help in reaching that goal.**

This endowment is the first of its kind at the Medical College of Georgia (MCG). We expect that it will help ensure continuing success of MCG Physiology trainees and keep the Department of Physiology at the forefront of discovery for years to come. In uncertain times like these, philanthropy and gifts have become integral to all levels of education and we hope that you will join us in supporting future generations of biomedical PhD and MD-PhD scientists in our department.

If you are interested in making a gift to the Department of Physiology at MCG at Augusta University, please go to our website (www.augusta.edu/mcg/phy/phys_gift.php) for more information on our Endowment Funds.

**Thank you for considering a contribution to this or one of our other endowments.**

**2017-2018 PHYSIOLOGY DONORS**

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<td>Augusta University</td>
<td>Stella Goulopoulou</td>
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<td>Retirees Association</td>
<td>Ruth Harris</td>
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<td>Roni and Wendy Bollag</td>
<td>Kara MacVean</td>
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<td>Mike and Kelley Brands</td>
<td>Brett M. Mitchell</td>
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<td>Darrell W. Brann</td>
<td>Yisang Yoon</td>
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<td>Aisha Cobbs</td>
<td>Chenghao Yu</td>
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<td>Cathy Davidson</td>
<td>Clinton and Nancy Webb</td>
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<td>Adviye Ergul</td>
<td>Cameron McCarthy and Camilla Wenceslau</td>
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**Consider a gift to the Department of Physiology**

- Physiology Graduate Student and Postdoctoral Fellow Endowment Fund
- Endocrinology Fund
- Greenblatt Lectureship
- Herbert S. Kupperman Endowed Chair
- Lois Ellison Lectureship
- Mahesh Lectureship and Graduate Award
- Thomas Muldoon Lectureship
- W. F. Hamilton Memorial Fund

*For more information on these funds or to make a contribution please visit us at www.augusta.edu/mcg/phy/phys_gift.php*