The Fourth Annual Meeting of the Greater Washington Chapter of the American Physiological Society (dmvCAPS) was hosted by the George Washington University in Washington, DC on October 23, 2017. The meeting hosted 136 attendees, representing 12 local institutions, including: Children’s National Medical Center, The George Washington University, University of Maryland, Georgetown University, Howard University, John's Hopkins University, National Institutes of Health, Uniformed Services Health Sciences University, United States Food and Drug Administration, Virginia Polytechnic Institute and State University, Biomedical Research Institute, and the University of Virginia. Of those attending, 27% were faculty members, 19% were postdoctoral or clinical fellows, 18% were graduate or medical students, 1% high school student, 14% were undergraduate students, and 21% other.

After an early morning of registration and coffee, Dr. Nikki Posnack [President dmvCAPS, Children’s National Medical Center) welcomed attendees and speakers. Attendees were also greeted by a special guest, Dr. Martin Frank [Executive Director of The American Physiological Society] who also participated in the annual meeting. The oral sessions began immediately following the opening remarks, and included a range of topics from physiology, biomedical engineering, translational science, and science policy.

The first session was kicked off by Dr. Jennifer Pluznick [Asst Professor, Johns Hopkins University] presenting her research on “Olfactory Receptors, Gut Microbiota, and the Kidney”. This presentation was followed by Dr. Kevin Cleary [Professor, Sheikh Zayed Institute] who presented his laboratory’s research on “Robotically Assisted Rehabilitation for Pediatrics”, and Dr. Laura Olivieri [Cardiology, Children’s National Health System] who presented her work, titled “3D Printing and Congenital Heart Disease: A Heart Model Speaks 10,000 Words.” The session commenced with a presentation chosen by the Conference Organizing Committee from the submitted abstracts. Ms. Victoria Gillam [Undergraduate student, Howard University] presented her studies aimed at “Identifying and Localizing Necklace Olfactory Receptors in the Kidney.” Each presentation was followed by a 10-minute question and answer session, moderated by Dr. Boris Lushniak [Dean, School of Public Health, University of Maryland].

The second session included Dr. Ed Lakatta [National Heart Lung and Blood Institute, NIH], the keynote speaker for the meeting, who presented on “Why and When your Next Heartbeat will Occur.” This presentation was followed by Dr. An Massaro [Neonatologist, Children’s National] who shared her research on “Physiological Biomarkers of Brain Injury in Neonatal Hypoxia-Ischemic Encephalopathy.” The second session commenced with two presentations chosen from abstracts: Dr. Clayton Domingues [Postdoctoral fellow, George Washington University] who presented his studies related to “Transplantation of Modified Human Mesenchymal Stromal Cells Improves Glucose Homeostasis and Non-Alcoholic Fatty Liver Disease” and Sergey Kanovka [Georgetown University] who presented research on “Transmission Electron Microscopy Reveals a Reduction in Energy Efficiency of the Right Ventricular Myocyte in a New Model of Heart Failure.” Presentations were followed by a question and answer session, moderated by Dr. David Mendelowitz [Professor, George Washington University].

The afternoon career development and networking session provided attendees the opportunity to meet mentors from a variety of different science backgrounds and career paths. Drs. Aisar Atrakchi, Jonathan Reich and Mitra Rocca were in attendance from the Food and Drug Administration. Drs. Paul Marvar, Colin Young, Jennifer Pluznick, Chung-Hyak Park, Sarah Glancy and Nikki Posnack were in attendance to share experiences related to academia. Finally, Drs. Stephanie Devaney, Matthew Raymond, Erik Stemmy, Gail Pearson, Kristen Burns and Armel Femnou served as mentors and provided guidance on career paths at the National Institutes of Health.

After the career networking lunch, Dr. Stephanie Devaney presented on her work related to science policy and the “All of Us” initiative at the National Institutes of Health. Next, Dr. Richard Lovering [Associate Professor, University of Maryland] presented his research titled “Assessment of Damage in Skeletal Muscle Injury and Disease.” The final speaker of the afternoon, Dr. Steven Malin [Assistant Professor, University of Virginia] spoke about the “Role of Exercise Dose on Skeletal Muscle Glucose Metabolism and Delivery.” A question and answer session was moderated by Dr. Yi-Wen Chen [Associate Professor, Children’s National]
A highlight of the afternoon session was the “Minute to Win It”. In this session, each poster presenter was given 60 seconds to tell the audience about their research, why it is important, and convince conference attendees to visit their poster to learn more. The enthusiastic trainees embraced this opportunity and spoke with passion, clarity, and brevity. This session energized the attendees for the poster session that immediately followed.

The poster session featured a total of 64 posters, which were grouped into 3 categories: undergraduate/pre-graduate students, graduate students, and postdoctoral trainees. Poster judges were extremely impressed with the work of these junior scientists. A total of (10) poster awardees were chosen, who received printed awards along with $100. Winners were announced by dmvCAPS President Nikki Posnack, at the end of the poster session.

The business meeting followed the awards ceremony, and was chaired by Nikki Posnack. Treasurer Sarah Kuzmiak-Glancy [George Washington University] discussed the Chapter’s expenses, donations, and budget for the current year.Secretary Kara Garrott [George Washington University] discussed current membership numbers and upcoming elections. Additional discussion was focused on forming and updating committees to assist with the next dmvCAPS annual meeting, sponsorship, and promoting APS in the DC, MD and VA region. Attendees expressed enthusiasm regarding the level of research conducted by trainees, and the diversity of the institutions represented at the 4th annual meeting. Following Chapter elections (January 2018), organization of the 5th annual conference will begin, with the goal of increasing interaction and networking opportunities between trainees and more senior members of the society.

dmvCAPS would like to thank the generous sponsors who helped make this meeting possible. Our sincerest appreciation and gratitude to The American Physiological Society, The George Washington University Department of Biomedical Engineering, Data Sciences International, Emka Technologies, Children’s National Heart Institute and the Sheikh Zayed Institute for Pediatric and Surgical Innovation, The George Washington University Department of Pharmacology and Physiology, Thermo Fisher, Takara, Nikon, ADInstruments, Thor Labs, and Harvard Biosciences for their generous support. A special thank you to our officers (Dr. Sarah Glancy, Treasurer; Kara Garrott, Secretary), conference meeting co-chairs (Dr. Matthew Barberio, Dr. Jhansi Dyavanapalli), the organizing committee and many volunteers who dedicated their time to supporting the annual meeting.

Figure 1. dmvCAPS conference attendees take a quick photo break following the third session.
Figure 2. Top right panel: Postdoctoral poster awardees Dr. Rafael Jaimes, Dr. Arnab Ditta and Dr. Marchshall Hogarth, alongside Chapter President Dr. Nikki Posnack. Top left panel: Undergraduate poster awardees: Sarah Schrup, Larissa Wietlisbach and Oleksiy Melnyk. Bottom right panel: Graduate student poster awardees: Armel Femnou, Nour Al-Muhtasib, Michael Entz and Nouran Abu Alsaud. Bottom left panel: Oral presenter awardees Victoria Gillam and Sergey Kanovka (Clayton Domingues/Yana Kropotova not pictured).

Figure 3. Dr. Angel Moreno (top, left) and Dr. Rebecca Zee (top, middle) sell their science in “Minute to Win It”. Dr. Kara Garrott and Adam Swiercz discuss research at the poster session (top, right). Attendees mingle with mentors at the career-networking lunch (bottom, left). Dr. Mark Haigney and Dr. Sarah Kuzmiak discuss the research presentations (bottom, middle), and Dr. Matthew Kay’s laboratory presents their recent data at the poster session (bottom, left).