

Translational Physiology Interest Group (TPIG)

Reimagined

Supporting translational research within the APS community

Having received my PhD in physiology prior to medical school, it was thrilling to step into an operating room and watch an anesthesiologist control so much physiology in a patient undergoing a procedure. As the blood pressure decreased and the arterial line tracing dampened, all it took was a small dose of phenylephrine through the intravenous line to raise the blood pressure back up to an appropriate level. In a sense, I was witnessing a human physiology experiment and I knew immediately this was the medical specialty for me.

When the time came to find a laboratory to work in during residency, someone suggested that I connect with David Gutterman, PhD, FAPS, because he “studies blood vessels ... in humans.” *What? We can study human blood vessels?!* Twelve years later I now have my own laboratory and am still fascinated by what we can gain from translational studies involving the use of human tissue. I am truly honored to now lead the translational interest group within the American Physiological Society (APS) and while I was excited to share the news with David, he stumped me with the question “How do you define translational research?”

Defining Translational Research

According to the National Center for Advancing Translational Sciences (NCATS) at the National Institutes of Health (NIH), which was founded in 2011, translation is defined as “the process of turning observations in the laboratory, clinic and community into interventions that improve the health of individuals and the public—from diagnostics and therapeutics to medical procedures and behavioral changes.” While the translational spectrum is broad and encompasses basic science, preclinical research, clinical research, clinical implementation and public health, patient involvement is a critical feature in all these identified stages. To some, translational research must involve the use of human cells, tissue, or intact individuals. To us in the Translational Physiology Interest Group (TPIG), the definition of translational research echoes the NIH, that the goal of translation is to improve the health of individuals and the public. Therefore, I hope in a sense, we are all translational researchers.

The Makeup of TPIG

We are proud to say that TPIG is the largest interest group within APS. Of the roughly 8,700 APS members, approximately 1,724 also belong to TPIG. All 12 APS sections have at a minimum 35 members who identify with TPIG with the largest representation from the Cardiovascular Section with an impressive 462 members. We are a diverse interest group that is highly cross-sectional.

TPIG Reimagined

In the wake of the COVID-19 pandemic, many group activities and committees are undergoing a revitalization and TPIG is no exception. When I examined the makeup of the TPIG Steering Committee I realized that we were left with a skeleton crew all from one APS section. We came together as a group and discussed how the Steering Committee could grow and improve representation across all APS sections. We have revamped our statement of organization and procedures to promote more involvement from all APS sections. For instance, we aim to have no more than two representatives from the same primary APS section and ideally would include a maximum of eight representatives in addition to the Steering Committee chair and vice chair.

Through an election process, these representatives will be assigned to TPIG programming, communications, or other duties. We highly encourage the participation of trainees and support the inclusion of up to two trainees who will work alongside an APS section representative to complete these tasks. Our goal is to advocate for all members of the APS that have an interest in enhancing the translation of fundamental physiology. We are extremely excited to experience the inaugural American Physiology Summit in Long Beach, California, in April. This is a fresh start, a time to reboot our enthusiasm for physiology and translational science. Resuscitating patients is part of my job as an anesthesiologist and now it's time to deliver 200 joules of energy to the chest of TPIG.

Julie K. Freed MD, PhD
Medical College of Wisconsin
Chair, TPIG Steering Committee



TPIG Steering Committee Members

Chair
Julie K. Freed, MD, PhD (pictured above)

Vice Chair



Viswanathan Rajagopalan, PhD
New York Institute of Technology, Jonesboro, AR

Programming Representatives

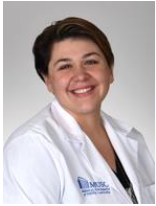


Andreas M. Beyer, PhD
Medical College of Wisconsin



Amanda J. LeBlanc, PhD
University of Louisville School of Medicine

Communications Representative



Kristine Deleon-Pennell, PhD
Medical University of South Carolina

TPIG Showcase: One last Hooray for the APS annual meeting at Experimental Biology (EB).

"The future belongs to those who believe in the beauty of their dreams."—Eleanor Roosevelt

As we look towards the future of APS and TPIG, reflecting on our past successes (and sometimes failures) will only push ourselves towards creating a better tomorrow. As TPIG evolves, our goal will always be to ensure that we mirror the interests of the members. A big part of this is by organizing translational programming that highlights the cross-sectional interest of APS. With all the excitement for the American Physiology Summit, we would like to thank all the exceptional speakers and Chair Frances Chen DVM, PhD, from the TPIG symposium "The Power of Comparative Models for



Accelerating Translational Healthspan Research,” for their outstanding presentations given at EB 2022.

We would also like to thank *Physiological Reports* for providing award funds and Co-chairs Jainee Terwood PhD and William Hughes PhD and the five judges who took the time to support the TPIG Showcase. Thank you to all that attended these sessions and supported the trainees who presented in the showcase.



The Best Oral Presentation Award recipient was Kaitlin A. Freeberg of the University of Colorado, with the talk “High-Resistance Inspiratory Muscle Strength Training-associated Increases in Exercise Tolerance in Midlife/Older Adults are Related to Circulating Acylcarnitines.

Inaugural American Physiology Summit: One for the history books.

It was only a few weeks ago, we were planning for the first (of many) APS Summit annual meeting in Long Beach, California. The exciting scientific, professional development, and social networking events set precedent for future meetings to come. The Steering Committee is proud to share that the TPIG physio-hub session “Mice are Just Small Humans—Translational Research in Physiological Aging” was extremely well attended with more than 140 participants counted! This was the second highest **non-sponsored** session. Thank you everyone who was able to attend and support APS and TPIG.



Pictures from the TPIG physio-hub session “Mice are Just Small Humans—Translational Research in Physiological Aging” held during the 2023 Summit in Long Beach, CA.

If you are interested in serving as a TPIG representative, please contact Julie Freed.

jfreed@mcw.edu

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