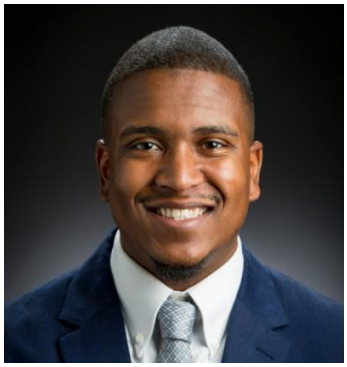
Thermo Fisher Scientific Junior Innovators Challenge
Judges 2025

Dr. Katie Boggs

Judging Chair
Director, Civil Space
BAE Systems

Dr. Katie Boggs is Director for Civil Space at BAE Systems, Inc, leading strategic operations to drive near- and mid-term growth across human spaceflight, Earth science, planetary science, and commercial space. Previously, she served in various roles at NASA, including the Deputy Associate Director for Flight Programs in the Earth Science Division, overseeing 23 operating missions and the development of 20 new satellites dedicated to Earth observation and climate research. Dr. Boggs also contributed significantly to the Artemis program and the International Space Station, where she was instrumental in advancing technologies essential for human exploration of the Moon and Mars. She holds a Bachelor's degree in Materials Science and Engineering and a Doctorate in Physics, with her doctoral research focusing on the development of rare earth magnetic materials.



Julian Alford

Senior Engineer
Johns Hopkins University, Applied Physics Laboratory

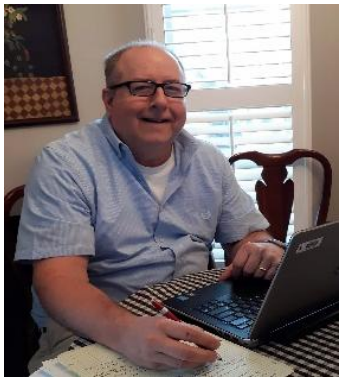
Julian Alford is a Senior Engineer and Section Supervisor at the Johns Hopkins University Applied Physics Lab (APL). Julian's professional journey began with a B.S. in Electrical Engineering from North Carolina A&T State University, followed by an M.S. in Electrical Engineering from Michigan State University. As a Senior Engineer at APL, Julian has been at the forefront of ship self-defense predictive analysis and engineering, with a goal of coordinating and controlling self-defense engagements in highly distributed, networked environments. His work also includes algorithm development and modification for electromagnetic warfare defense systems. He is also the Combatant Integration Section Supervisor of the Maritime Force Engagement Control group. As section supervisor, his duties include mentoring and coaching staff in his section, working directly with them to develop their skills, refine career plans, and connect them with opportunities for growth and impact. Beyond his technical contributions, Julian is an active member of the National Society of Black Engineers (NSBE), participating as a Professional member of the DC Chapter. He is also a co-advisor for the FIRE STEM NSBE Jr. chapter, where he has dedicated his time to teaching programming, circuits, robotics, and physics applications to K-12 students. Julian's commitment to STEM education extends beyond NSBE, as he has mentored and tutored students from 3rd grade all the way to college, as well as volunteered for various K-12 STEM competitions. Additionally, he has taken the lead in a scholarship effort aimed at providing financial assistance to African American students pursuing STEM fields in college.

Dr. Gennifer Goode

Fred Hutchinson Cancer Center

Dr. Gennifer Goode is a Program Manager with the Science Education Program at the Fred Hutchinson Cancer Center in Seattle. In this role she works with a team to expose high school students to cutting-edge research and careers at Fred Hutch. Prior to joining Fred Hutch, she served as the Director of the Center for Undergraduate Research and Graduate Opportunity at Xavier University of Louisiana.

Dr. Goode is a graduate of Tennessee State University and Meharry Medical College. She holds a Ph.D. in Cancer Biology and has research and teaching experience, completing postdoctoral training at the University of Nebraska Medical Center and Vanderbilt University. Her past work involves increasing STEM literacy and enhancing STEM education; investigating the role of the AhR in TNBC, and examining metabolic alterations in breast and pancreatic cancers. Dr. Goode is committed to developing and implementing educational programs that provide opportunities, mentorship, and cultivate skills to enhance diversity within STEM fields.



John Hall

Physical Scientist, Retired
Environmental Protection Agency

John Hall has spent the last 35 years performing environmental remediation and environmental research projects. John received a bachelor of science degree in applied math and science from the University of Louisville in 1986. John has served as a state regulator for wastewater treatment and collection systems. He has served as an environmental consultant for numerous soil and ground water remediation projects. John was a project manager for the US Department of Energy for 13 years working on the clean up of a former uranium metal processing facility in Fernald Ohio. John spent the last 17 years leading environmental research projects for the US Environmental Protection Agency. He was responsible for testing and improving water quality sensor technologies at the EPA Test and Evaluation facility in Cincinnati, Ohio. John worked on teams which developed several software products such as an event detection algorithm called Canary and a river spill model developed for the Ohio River. John is a co-inventor for a patented mobile water treatment system called the Water on Wheels cart. The cart provides safe potable water from water sources which have been compromised by environmental emergencies which disrupt normal water distribution. John retired after 30 years of federal service in 2022. He currently spends much of his time traveling with his wife visiting their 6 grown kids.

Dr. Eric Lopato

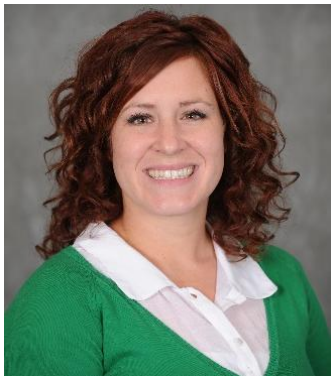
Laboratory Manager
Pure Lithium

Dr. Eric Lopato is a Laboratory Manager at Pure Lithium, a Chicago based battery technology company enabling the commercial development of lithium metal batteries. Dr. Lopato previously worked in technology strategy, laboratory management, and analytical tool development for Mattiq, a Chicago based startup focused on the utilization of ultra-high throughput testing methods to revolutionize materials discovery. Prior to this position, Dr. Lopato held a post-doctoral position at Argonne National Laboratory with the ReCell group working research involving the recycling of lithium-ion batteries. Dr. Lopato obtained his PhD in chemistry from Carnegie Mellon University in 2022 with research focusing on development of methods for high-throughput photocatalytic hydrogen evolving reactions. Throughout his professional career, Dr. Lopato has had the singular focus to expand the throughput and automation of experimental materials science research for green energy technologies and pairing this big data collection with computational tools to make the best use of modern technologies in laboratory automation and artificial intelligence.

Dr. Annabell Segarra

Chair, Physiology Department
School of Medicine, University of Puerto Rico

Dr. Annabell C Segarra is a Professor at the Physiology Department at the School of Medicine and Dean of Research at the University of Puerto Rico Medical Sciences Campus. She teaches the topics of endocrine and reproductive human physiology, as well as higher brain functions to medical, dental and graduate students. Her research has been funded by NIH, NSF and the DOD to investigate the role of sex and gonadal steroids in modulating anxiety and addictive behaviors. These studies contribute to a better understanding of the mechanisms involved in psychiatric disorders and to identify gender bias. Dr. Segarra has taught with the Overseas Division of the Univ of Maryland, with CUNY colleges in NYC and with the Rio Piedras Campus of the University of Puerto Rico. Dr Segarra also served as Program Officer of the Neuroendocrinology Program at the National Science Foundation. She has served as mentor to 2 MS, 8 PhD and 2 postdoctoral fellows in Physiology and 165 undergraduate Biology students. Dr. Segarra received her B.S. and M.S. in Biology from the University of Puerto Rico, Rio Piedras Campus and a Ph.D. in Biology from New York University. She continued postdoctoral studies in Neuroendocrinology at The Rockefeller University under the guidance of Dr. Bruce McEwen. She organizes and participates in outreach activities for high school students and is dedicated to mentoring the future generation of scientists.



Dr. Jennifer Whitney

Associate Professor
Department of Pharmacology & Physiology
Georgetown University

Dr. Whitney received her Ph.D. in Physiology from Georgetown University and is an Associate Professor in the Department of Pharmacology & Physiology at Georgetown University. Her teaching focuses on physiology, specifically renal physiology. She also teaches cadaveric and non-cadaveric gross anatomy to graduate students. Dr. Whitney also enjoys teaching pathophysiology, which she teaches to many kinds of students all over Georgetown's campus. Her research interests are on growth hormone-mediated sex differences in diabetic renal disease.

Dr Whitney is currently the director of the Special Master's Program (SMP) at Georgetown University. Dr. Whitney was the director of the Regular Physiology M.S. program for 11 years prior to her leadership in the SMP. She has taught and worked with pre-medical students in these programs since 2008. Not only does Dr Whitney have a passion for medical education, she is also passionate about helping students fulfill their dreams of attending medical school.