

SURA 2025 Workshop Presenters

Tuesday, February 25th, Day 1



Dr. Kristin Kopperud, Science Program Director for the International Space Station National Lab

Dr. Kristin Kopperud joined the Center for the Advancement of Science in Space, Inc. (CASIS), which manages the International Space Station (ISS) National Laboratory, as an Operations Project Manager in June 2020. She transitioned to the role of Science Program Director of Biological Sciences in the Research and Innovation department in March 2022. Her focus areas include tissue engineering, in-space production applications and biomanufacturing, and rodent research. She works with Principal Investigators to outline their science requirements during the early stages of their projects' lifecycles. Using skills developed in her former role in the Operations department, she is able to evaluate concepts and proposals from an operational standpoint as well as a scientific one, which helps her to refine the projects' requirements to feasibly support biology in microgravity. She also works with the Education department to use science as a means of education and outreach and presents to the public in webinars and conferences to connect to researchers in microgravity and beyond.

Dr. Kopperud received her BS in Biotechnology and Biology from the University of Kentucky. She earned her PhD in Biological Sciences from Florida Institute of Technology studying circadian rhythms in the retina of the Atlantic tarpon. While she moved to Florida to pursue a career in marine biology, she was captivated by the space culture that was inescapable on the Space Coast. During graduate school, she taught undergraduate laboratory sections of Mammalian Physiology and Biology and was recruited to serve as a Research Support Scientist for several ISS National Lab-sponsored Rodent Research missions, serving as a surrogate for the crew on the ISS. Thus began a career in the aerospace industry—and she hasn't looked back!



Dr. Gioia Massa, Project Scientist, NASA Kennedy Space Center

Gioia Massa is a NASA scientist at Kennedy Space Center working on space crop production for the International Space Station and future exploration endeavors. She led the science team for the Veggie validation, and she heads interdisciplinary teams to study nutrition, flavor, microbial composition, and stress responses of space-grown crops. She has a BS in Plant Science from Cornell, a PhD in Plant Biology from Penn State, and conducted postdoctoral research at Purdue University and Kennedy Space Center. She has worked in the areas of plant space biology and bioregenerative life support.

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Dr. Anna-Lisa Paul, Research Professor and Director of the Interdisciplinary Center for Biotechnology Research, University of Florida

Dr. Anna-Lisa Paul is the director of the Interdisciplinary Center for Biotechnology Research (ICBR) at the University of Florida and a research professor in the department of Horticultural Sciences, program of Plant Molecular and Cellular Biology. Paul's research is focused on plant gene expression in response to spaceflight environments, with terrestrial research relevant to planetary exploration, including work in Antarctica and the Arctic, and with true lunar regolith from the Apollo era to evaluate plant molecular responses to that novel environment. Paul has served the space research community as president of the American Society for Gravitational and Space Research (ASGSR), as a member of the ISS Standing Review Board, on NASA's GenLab Science Council, on the Suborbital Applications Research Group (SARG) advisory board for the Commercial Spaceflight Federation, and currently serves on two National Academies Committees: the Committee on Biological and Physical Sciences in Space (CBPSS), and as the Co-Chair of the Human Exploration of Mars: Panel on Biological and Physical Sciences and Human Factors. Paul is a Fellow of the American Association for the Advancement of Science (AAAS) and of the American Society for Gravitational and Space Research (ASGSR). She is a recipient of the NASA Medal of Honor for Exceptional Scientific Achievement.



Dr. Rachael Siedler, Professor and Deputy Director of Astraeus Space Institute, University of Florida

Rachael Seidler is a Professor in the Departments of Applied Physiology and Kinesiology and Neurology at the University of Florida, and she is the Deputy Director of UF's Astraeus Space Institute. She studies how the brain controls movement in both older adults and space travelers to enhance human performance. Her work is funded by NASA, the National Institutes of Health, the National Science Foundation and other agencies. She has received over \$17 million in grants supporting her research, and she has published close to 200 peer reviewed papers illustrating her findings.

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Dr. Emmanuel Urquieta, Vice Chair of Aerospace Medicine and Associate Professor, University of Central Florida

Emmanuel Urquieta, M.D., M.S., FAsMA, is the Vice Chair of Aerospace Medicine and Associate Professor of Medicine at the University of Central Florida – College of Medicine. In his role at UCF, he oversees the development of research, education, and partnerships in the domain of aerospace medicine.

Prior to joining UCF, Dr. Urquieta served as the Chief Medical Officer at the NASA-funded Translational Research Institute for Space Health where we managed a multi-million dollar portfolio of medical research for missions to the Moon and Mars, the commercial spaceflight program EXPAND, and analog capabilities, including partnerships with the Australian Antarctic Division.

Dr. Urquieta has experience providing medical care in austere and remote environments serving as a flight surgeon in Mexico City's Police Department Helicopter Emergency Medical Services, participating in hundreds of rescue missions and aeromedical evacuations. He has volunteered in medical missions around the world. In 2017, Dr. Urquieta was selected as a crew member of the Human Exploration Research Analog (HERA) XI mission at NASA Johnson Space Center, spending 30 days in a capsule simulating a deep space long-duration mission. He is a Fellow of the Aerospace Medical Association, and an academician of the International Astronautical Association, and has authored and co-authored dozens of publications in peer-reviewed scientific journals.

Dr. Urquieta holds a medical degree and specialty in emergency medicine from Anahuac University in Mexico City and an M.S. in aerospace medicine from Wright State University in Dayton, Ohio. Dr. Urquieta frequently appears at scientific meetings and connects with reporters to discuss the effects of space on the human body and potential interventions to promote human space exploration.

Dr. Joel Olson, Subject Matter Expert, NASA Kennedy Space Center

A native of Wisconsin, in 1985 Dr. Joel Olson joined the US Navy at the age of 17 where he served as a hospital corpsman and a US Navy SEAL in Coronado, CA. After completing his enlistment, he subsequently received his B.S. in Chemistry in 1993 and Ph.D. in Analytical Chemistry in 1999 from the University of Wisconsin – Madison. His career has included a brief stint in industrial chemistry followed by 18 years of academic service where he conducted research on imaging of individual molecules via scanning tunneling microscopy and had an active analytical chemistry consultancy practice. In early 2020, Dr. Olson transitioned from academia to work for NASA at Kennedy Space Center where he is a contractor with Bennett Aerospace as a Subject Matter Expert II in Analytical Chemistry. His current research includes numerous areas such as plasma chemistry, logistics reduction, and in-situ resource utilization, in addition to traditional analytical chemistry topics such as gas sensors and coulometry. When he's not in the lab, Dr. Olson enjoys board games and table-top RPGs, playing guitar, graphic design, and kayaking Florida's numerous waterways.

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Tuesday, February 25th, Day 1



Dr. Laurent Sibille, Senior Technology Development Scientist, NASA Kennedy Space Center

Dr. Sibille has enjoyed twenty-eight years of continuous experience in science investigations and new technology development for NASA programs with expertise in materials processing and engineering, energy conversion, electrochemical and biochemical systems, systems engineering, and modeling. He served as Principal or Co-investigator on early technology development projects in support of NASA planetary surface systems and missions with a focus on the prospecting and utilization of space resources. He served as Principal investigator for two Space Shuttle experiments on the formation of low-density materials in low gravity. His technology development responsibilities have included technical evaluation for NASA-funded work at universities, team leadership in lunar oxygen production systems development and co-founder of NASA's lunar simulant materials standardization program in use for the last decade. His leadership responsibilities in R&D within the Exploration Systems and Development Office at Kennedy Space Center's Swamp Works include the development of original proposals, creation of external collaborations with industry and academia, conception, execution, and analysis of scientific and engineering tests, and advising NASA KSC senior management and chief technologists in R&D. He has led the development of Molten Regolith Electrolysis technology and currently focus on the testing in relevant environments of regolith processing technologies for both extraction and construction on planetary surfaces.

Dr. Sibille is a founding member of the NASA Simulant Advisory Committee that provides NASA with technical analysis and strategic recommendations on mineral materials that simulate lunar regolith for the Artemis program. In 2021-2022, He was selected by the NASA Mars Program Office as a member of the International Mars Ice Mapper Mission Definition Team. He is a member of NASA's Human spaceflight Architecture Team with focus on space resources utilization (ISRU).

Dr. Sibille is an Associate Fellow of the American Institute of Aeronautics and Astronautics (AIAA) serving on the Space Resources Technical Committee. Since 2023, he has served as Technical Program Co-chair for AIAA ASCEND conference.

SURA 2025 Workshop Presenters

Wednesday, February 26th, Day 2



Dr. Elison Blancaflor, Portfolio Scientist at NASA Kennedy Space Center

Elison Blancaflor is Portfolio Scientist at the NASA-Kennedy Space Center (KSC). In this role, Elison oversees grants awarded by the NASA Science Mission Directorate (SMD)-Biological and Physical Sciences (BPS) Division to external Principal Investigators (PIs). Prior to joining KSC, Elison was Professor at the Noble Research Institute in Ardmore, Oklahoma. There, he directed a research laboratory focused on the application of live cell microscopy, genetics, and multi-omics to gain insights into molecular mechanisms by which plants grow and develop, and respond to their environment, including how they respond to stresses encountered in space. Elison obtained a B.S. Agriculture degree from the University of the Philippines, and M.S. and Ph.D. from the University of Louisiana. He was a postdoctoral fellow at the Pennsylvania State University from 1996-1999. Elison was PI on several federal grants from NSF, DOE, and NASA, and received the American Society for Gravitational and Space Research (ASGSR) Thora W. Halstead Young Investigator Award in 2005.



Michael Miller, Vice President of External Affairs and Workforce Integration, Space Florida

Mike Miller is the VP of External Affairs and Workforce Integration. He plays a vital role in advocating for the mission of Space Florida both in Tallahassee and Washington, DC. Mike is also tasked with guiding the organization to access and enhance the skilled labor force in Florida through partnerships with the Department of Education and companies seeking to relocate to Florida or expand their current operations in the state. After graduating the University of Florida, Mike began working on Capitol Hill for US Senator Connie Mack III. During his years on Capitol Hill he also worked for the National Republican Senatorial Committee (NRSC) and the House Agriculture Committee. Relocating to Florida in 1998, Mike worked for members of both the US House and Senate from Florida, including, Bill McCollum, Ric Keller, Connie Mack IV, Tom Rooney and Katherine Harris as well as US Senators Mel Martinez and Marco Rubio. After the 2010 election of Senator Marco Rubio, Mike stepped away from politics and worked at Rollins College in Winter Park as a Development Officer within the Athletic Dept. In 2014, Mike ran and won a seat in the Florida Legislature as a Representative of the 47th District (Orange County). He served on Ways & Means, Commerce, Judicial Appropriations Committees among others. In 2018, Mike ran for US Congress but was unsuccessful. He subsequently went to work as the Chief of External Affairs for the Florida Virtual School until his appointment to Space Florida. He currently serves on the boards for Goodwill Industries of Central Florida, the Alzheimer's Association, AMI Kids Orlando (an afterschool programs for at-risk kids), and the Florida Network (a statewide association representing 29 agencies that serve homeless, runaways, and troubled youth ages and their families). Mr. Miller has a bachelor's degree in American History from the University of Florida, and an MBA from the Crummer Graduate School of Business at Rollins College.

SURA 2025 Workshop Presenters

Wednesday, February 26th, Day 2



Deborah Wells, Vice President for Space Exploration and Mission Operations, Leidos

Debbie Wells is a biomedical engineer with an MBA from the University of Florida who has 25 years of space industry experience and over a decade in venture capital. Since 1988, she has contributed to over 100 space shuttle missions and the experiments aboard those flights expanding the knowledgebase that helps keep today's astronauts healthy. Her work has inspired the next generation of research aboard the International Space Station and the ISS National Lab. She was the Kennedy Space Center's Life Sciences Services Contract lead for the development of KSC and Edwards AFB facilities for astronaut research as well as for the design, construction and start-up of the 100,000 sq ft Space Life Sciences Lab – the first facility in Space Florida's Exploration Park. After completing her MBA in 2006, Debbie transitioned to a Florida venture capital firm to evaluate new business opportunities and recommend investment strategies. Her expertise in business, life sciences, and engineering led to her appointment as Director of Product Development at a renewable energy start-up with responsibility for recommending and implementing both manufacturing and business strategies for products in animal feed, fertilizer, fuels, and human food. She continued her entrepreneurial leadership as VP of Process Development for a separate start-up until returning to her passion for space working at Kennedy Space Center in 2017. Debbie has also served as Deputy Program Manager for Amentum Services, Inc. managing research and operational laboratories at Kennedy Space Center. Her focus was on acquiring new research funding, establishing collaborations and commercial partnerships for pushing the boundaries to prepare for the new economy of space. Debbie transitioned to Johnson Space Center to lead the Human Spaceflight Technical Integration Contract's support for the Orion Program in 2022, and most recently, she joined Leidos, Inc., an innovation leader in health, engineering and science where she oversees Leidos' Space, Environmental and Energy portfolio as the Vice President for Exploration, Energy and Environment (E3). She and her team are enabling the future of space exploration, global resilience, and sustainability. Throughout her career, Debbie has been active in extracurricular activities. These include local organizations such as Space Coast Runners, Divine Mercy Academy, and Girl Scouts of the USA. She has served her alma mater, Louisiana Tech University, as President of the Engineering and Science Foundation as well as the national Biomedical Engineering Society through leadership on the Engineering Accreditation Commission of ABET, Inc. to ensure the next generation of engineers is properly educated and prepared for future challenges. Her efforts have been honored through numerous recognitions including Space Coast Women Engineer of the Year, NASA's Silver Snoopy Award, Louisiana Tech Biomedical Engineering Alumnus of the Year and the network of individuals she calls colleagues and friends. Most recently, Debbie serves on the National Academy of Science, Engineering and Medicine (NASEM) Committee on Biological and Physical Sciences in Space.

Dr. Jose Nunez, University Partnerships and Small Satellite Capabilities Manager, NASA Kennedy Space Center