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PRESS RELEASE

"Out To Innovate Awards 2023 Scientist, Engineer, and Educator of the Year"

Recognition awards for outstanding achievement by LGBTQ+ people in STEM

FOR IMMEDIATE RELEASE

Out To Innovate Awards 2023 Scientist, Engineer, and Educator of the Year

Pasadena, CA, June 20, 2023

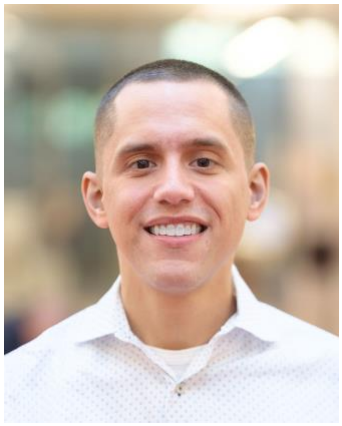
Out to Innovate is proud to announce the winners of its 2023 recognition awards for lesbian, gay, bisexual, transgender, and queer (LGBTQ+) professionals in science, technology, engineering, and math (STEM). Out to Innovate has recognized exemplary individuals with LGTBQ+ Educator, Engineer, and Scientist of the Year for over 15 years.

Out To Innovate will recognize these awardees in an online Awards Ceremony in August. Please check our website at https://outtoinnovate.org for more information regarding the Awards ceremony.

2023 LGBTQ+ Educator of the Year: Prof. Ramón S. Barthélemy, Ph.D.

The LGBTQ+ Educator of the Year award recognizes an educator who has significantly impacted STEM students through teaching, counseling, advocacy, and role modeling. Dr. Barthelemy is an Assistant Professor of Physics and Astronomy at the University of Utah. Before joining the faculty at Utah, Dr. Barthelemy was a Fulbright Fellow at the University of Jyväskylä, Finland, and an AAAS Science Policy Fellow. As a Fulbright Fellow, Dr. Barthelemy researched university physics education in Finland. As an AAAS Fellow, he focused on STEM education policies and helped support equity in STEM education. His current position focuses on physics education research, with a broad range

of interests from student learning in the classroom to policies that govern the physics community and impact physics careers. His current research focuses on understanding the social network development of Ph.D. physicists who identify as women and/or as part of the LGBTQ+ community. This unique project focuses on Ph.D. scientists beyond academia and includes the government and private sectors. This work aims to better understand how these groups build their professional networks and navigate them to find their definition of career-related success.



When asked how his life experiences have shaped his perspective as an educator, Dr. Barthelemy believes, "…being queer has impacted how I think about binaries. I do not see the world as a place where there is one incorrect and one correct answer. Rather I see a very complex world in which multiple kinds of explanations and models can be used to understand our lives and the world around us. As a scientist, this dips into ideas of philosophy of science and how we are not necessarily claiming to have a T truth, but instead are working to develop and refine models that help us explain and predict the natural world."

His nominators noted, "…he combines stellar graduate work in physics education research with some of the deepest and most significant work on gender and LGBTQ+ issues in Physics that has so far been written." When asked what advice he would give his younger self and scientists just beginning their adventures in physics, Barthelemy "…would tell a younger version of me to trust myself and to build a community of people who support one another and want to see each other succeed."

2023 LGBTQ+ Engineer of the Year: Dr. E. David Jansing, Ph.D.

The LGBTQ+ Engineer of the Year Award recognizes someone who has made outstanding contributions to their field and recognizes the awardee for sustained contributions in design, production, management, or research. Dr. Jansing is a Principal Remote Sensing Scientist at the Johns Hopkins University Applied Physics Laboratory.

Jansing is a remote sensing expert focused on synthetic aperture radar and hyperspectral imaging (particularly in the longwave infrared region of the spectrum). He uses the data collected from remote sensors to extract actionable information from the signal. In a recent project, Jansing worked on using remotely sensed commercial satellite data to identify regions prone to wildfire. His work resulted in 20+ publications, conference proceedings, a textbook, and a patent. Jansing is particularly proud of his textbook *Introduction to Synthetic Aperture Radar: Concepts and Practice*, which is a comprehensive but concise overview of synthetic radar and how it works. This text is a culmination of many years of teaching the subject, for which there was no textbook to draw from.

His letters of support identified Jansing as a scholar, passionate about research and teaching. One letter noted, "…during his time at the Applied Physics Laboratory, David has had a remarkable impact on our work in remote sensing, advancing our capabilities and contributions…and helping

to develop the next generation of talent." Another noted that his development of a novel 1-dimensional Convolution Neural Network (CNN) could distinguish signals often overlooked due to their similarity to the background. The results of this new data processing method "improved the detection of chemical leaks without the usual number of false alarms" and has greatly improved hyperspectral imaging for detecting chemical leaks in environmental monitoring and post-disaster recovery.

The advice he would give his younger self: "It's a marathon, not a sprint. Take a deep breath, slow down a little, and be patient." He also noted that age has made him realize that "I don't care if others approve of me being gay. It is just one aspect of a much bigger, richer life."

2023 LGBTQ+ Scientist of the Year: Prof. Victoria Orphan

The LGBTQ+ Scientist of the Year Award recognizes an individual who has made outstanding contributions to their field through design, research, or management. This year's award winner is Dr. Victoria Orphan, the James Irvine Professor of Environmental Science and Geobiology in the Environmental Science and Engineering Department at Caltech. Orphan is also the Allen V. C. Davis and Lenabelle Davis Leadership Chair in the Center for Environmental Microbial Interactions and the Director of the Center for Environmental Microbial Interactions.

Dr. Orphan focuses on molecular microbial ecology, developing new molecular and isotopic tools to determine how communities of anaerobic bacteria cycle carbon and sulfur in the environment and ocean. Through the integrated application of environmental 'omics, the Orphan lab provides new insight into interspecies interactions in oxygen-poor environments, such as methane seeps and vents along the floor of the deep ocean and in the sediment of seagrasses. She has published over 140 peer-reviewed publications. Orphan was inducted as an AAAS Fellow in 2020, elected an American Geophysical Union and Academy of Microbiology Fellow in 2015 and 2021, and received a MacArthur grant in 2016. She has also been recognized for her scholarship, mentorship to 40+ graduate students and postdocs, and diversity-related efforts, including the Dr. Fred Shair Award for Programming Diversity at Caltech.

Letters of support highlighted the creativity Orphan brings to her research. "She is a renaissance woman, expertly combining tools and techniques not often found in the same laboratory or field. Victoria is providing rich datasets of microbial communication that combines imaging (optical, electron microscopies, synchrotron-based methods) with whole genome and proteome datasets." Another letter writer emphasized the "unflagging support of DEI locally at Caltech and globally."

When asked what advice she has for future LGBTQ+ scientists interested in research in this world and beyond, she offered: "Use your passions in science and life as a guide for your future career and, as much as possible, keep that sense of wonderment and curiosity alive. Working with and learning from diverse scientists with different backgrounds and scientific expertise has enriched my life, and I believe is the sweet spot for new discoveries and innovation."