UC SANTA BARBARA

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Andrew Masuda

A prestigious career honor for two elite engineers

Two professors in UC Santa Barbara's College of Engineering, Beth Pruitt and M. Scott Shell, have received a distinguished lifetime honor within the scientific community: they have both been named fellows of the American Association for the Advancement of Science (AAAS), landing among 502 scientists, engineers and innovators across 24 disciplines who make up the 2023 class.

Fewer than 1% of AAAS members each year are elected fellows of the association, the world's largest general scientific society, that publishes the *Science* family of journals.

"Professors Pruitt and Shell are outstanding scholars whose innovative research and vision have advanced the course of their respective areas of biomechanics and molecular simulations," said Umesh Mishra, dean of UCSB's College of Engineering. "They have also made significant contributions to our university and college as leaders and mentors. On behalf of the college, I congratulate them both on this tremendous and well-deserved recognition from their peers."

Pruitt, chair of the newly established Bioengineering Department and the Mehrabian Chancellor's Chair of the College of Engineering, joined the UCSB faculty in 2018. Her research interests include the biophysics and mechanisms of mechanobiology, the field of science that studies how physical forces and changes in the mechanical processes of cells and tissues contribute to development, cell differentiation and

disease. Researchers in Pruitt's lab have developed technologies to enhance maturity in human pluripotent stem cell-derived cardiomyocytes and made quantitative measurements of cell responses to drugs or disease mutations. The AAAS honored Pruitt for her "seminal contributions to developing custom measurements and analysis systems for cell-level studies of biomechanics, mechanotransduction and pathways in cell-cell adhesion and subcellular organization, and exceptional sponsorship for bioengineering."

"I feel incredibly honored to have my contributions recognized by my esteemed colleagues," said Pruitt, who is also an elected fellow of the Biomedical Engineering Society, the American Institute for Medical and Biological Engineering and the American Society of Mechanical Engineers. "I'm grateful to my wonderful lab members past and present, and to my collaborative colleagues at UCSB and beyond. They have been an integral part of making my professional and research career fulfilling and impactful."

Shell, vice chair of the Chemical Engineering Department and the John Myers Founder's Chair of Chemical Engineering, started at UCSB in 2007. His research group develops molecular simulation, multiscale modeling and statistical thermodynamic approaches to address problems in biophysics and soft-condensed matter. Shell's work plays an integral part in numerous interdisciplinary centers and institutes at UCSB, including the Institute for Collaborative Biotechnologies; the Institute for Energy Efficiency; the BioPolymers, Automated Cellular Infrastructure, Flow, and Integrated Chemistry Materials Innovation Platform; the Center for Materials for Water and Energy Systems; the Materials Research Laboratory; and the Mitsubishi Chemical Center for Advanced Materials. Shell was cited by his AAAS peers for "creative contributions to molecular simulations in the chemical sciences, including powerful methods for coarse-graining and free-energy estimation."

"It is incredibly humbling to have this distinction, and I am in debt to my eminently talented students who have taken our research in unforeseen, creative directions," said Shell, whose previous recognitions include an Early CAREER Award from the National Science Foundation, a Sloan Research Fellowship, and the Computational Molecular Science and Engineering Forum Impact Award from the American Institute of Chemical Engineers. "Our group has thrived in UCSB's unique and uber-collaborative ecosystem, which has propelled us to pursue new projects and ideas. I can't think of many university cultures that better encourage such levels of creativity through interaction and collaboration."

The new AAAS Fellows will receive a certificate and rosette pin to commemorate their election and will be celebrated at a forum later this year in Washington, D.C.

“As we celebrate the 150th anniversary of the AAAS Fellows, AAAS is proud to recognize the newly elected individuals,” said Sudip S. Parikh, AAAS chief executive officer and executive publisher of the *Science* family of journals. “This year’s class embodies scientific excellence, fosters trust in science throughout the communities they serve, and leads the next generation of scientists while advancing scientific achievements.”

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Media Contact

Shelly Leachman

Editorial Director

(805) 893-2191

sleachman@ucsb.edu

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The University of California, Santa Barbara is a leading research institution that also provides a comprehensive liberal arts learning experience. Our academic community of faculty, students, and staff is characterized by a culture of interdisciplinary collaboration that is responsive to the needs of our multicultural and global society. All of this takes place within a living and learning environment like no other, as we draw inspiration from the beauty and resources of our extraordinary location at the edge of the Pacific Ocean.