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Professors Thuc-Quyen Nguyen and Carlos G. Levi are elected to the National Academy of Engineering

UC Santa Barbara professors Thuc-Quyen Nguyen and Carlos G. Levi are among 106 new members of the National Academy of Engineering. Academy membership honors those who have made outstanding contributions to "engineering research, practice or education, including, where appropriate, significant contributions to the engineering literature" and to "the pioneering of new and developing fields of technology, making major advancements in traditional fields of engineering, or developing/implementing innovative approaches to engineering education."

"Our campus is thrilled to congratulate Professor Carlos G. Levi and Professor Thuc-Quyen Nguyen on their election to the National Academy of Engineering," said UC Santa Barbara Chancellor Henry T. Yang. "Election by one's peers to this prestigious academy is a milestone career achievement — one of the highest professional distinctions accorded to an engineer. Each has made engineering advancements in service to not only their respective fields, but society at large, and we take great collective pride in this well-earned recognition of their pioneering research contributions."

Capturing Sunlight

"I am deeply honored to be elected to the National Academy of Engineering," said

Nguyen, director of the campus's Center for Polymers and Organic Solids and a professor in the Department of Chemistry and Biochemistry. "I sincerely thank the Academy for this recognition and am grateful for the tremendous support from UCSB leaders, staff and colleagues for the past 19 years. I am grateful to my students, postdocs and collaborators for sharing their knowledge, imagination and creativity. I would like to thank my family, mentors, friends and colleagues who have supported me over the years. I would not have gotten to where I am today without them."

Cited by NAE "for leadership in education and diversity, and research in organic photovoltaic for energy-efficient buildings and greenhouses," Nguyen can trace her motivation to educate from her own family — she is in the fourth generation to follow a teaching career. Her pursuits in organic photovoltaics — solar panels — also stems from her childhood spent in small villages in Vietnam without electricity.

"I remember dreaming of capturing some of the sunlight so I could study at night," she said of the curiosity and creativity that led her to pursue a career in science. Nguyen immigrated to the U.S. at the age of 21 with a few words of English, and worked her way through her studies at UCLA, eventually joining the UCSB faculty in 2004. She is the recipient of numerous honors and awards, including the 2015 Alexander von Humboldt Research Award. She was elected a 2016 Fellow of the Royal Society of Chemistry, a 2019 Fellow of the American Association for the Advancement of Science (AAAS) and, in 2019, was named to the Advanced Materials Hall of Fame.

In addition to photovoltaics, Nguyen's research today focuses on organic electronic devices, photodetectors and electrochemical transistors. "UCSB has helped make my childhood dreams a reality," she said. "It is a privilege to be an educator and a scientist and I will continue to make impactful contributions to the UCSB community, the NAE, the global scientific community and society."

Durability Under Fire

Levi, the Mehrabian Distinguished Professor of Materials and a distinguished professor in the Department of Mechanical Engineering at UC Santa Barbara, was cited by NAE "for contributions to the understanding and development of high-temperature engineered surfaces and multilayers used in advanced gas turbine engines."

“It is uplifting to receive this honor from NAE,” Levi said, “but it also makes one aware that it is only possible to build a career deserving of such recognition thanks to the contribution of current and former collaborators, including colleagues in industry and academia, as well as students and postdocs who might have learned from me, but also taught me through their research and search for knowledge.”

Hailing from Monterrey, Mexico, Levi came to the U.S. in the 1970s with a degree in chemical engineering and an interest in pursuing graduate studies in metallurgical engineering, especially on novel processing of metal alloys and composites. After joining the UC Santa Barbara faculty in 1984, this interest grew to include ceramics and a research emphasis on high-temperature engineered coatings and composites that improve fuel efficiency and reduce emissions in energy and transportation systems. In recent research, Levi identified and elucidated the mechanisms by which deposits of molten silicates (CMAS) from volcanic ash, sand and dusty environments around the world cause accelerated degradation of aircraft engine components. He has applied that knowledge to help guide the development of thermal and environmental barrier coatings that can resist CMAS-induced failures.

An author of more than 200 research articles, Levi is the recipient of several awards for his work, including the 1983 Howe Medal and the 1989 Grossman Award from the Materials Information Society. Additionally, he is a fellow of the American Ceramic Society and has been recognized with the 2002 Alexander von Humboldt Research Award for senior U.S. scientists, the 2008 NIMS Award and the 2014 TMS Morris Cohen Award.

“I am especially grateful to the people who created the collaborative environment at UCSB, which motivated and enable the learning process that has guided my career over the years, as well as to the colleagues who prepared my nomination,” Levi said.

Nguyen and Levi will be formally inducted during the NAE’s annual meeting on Oct. 1, 2023.

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About UC Santa Barbara

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.