Inspiring Alumni: Dr. Debbie Senesky

UC Berkeley | Department of Mechanical Engineering

Source: engineering.stanford.edu

About

Dr. Senesky grew up in Fairfield, California. She was a first-generation college student who came from a low socio-economic background. She is now a professor and researcher at Stanford University.

Dr. Senesky self-identifies as bi-racial with African-American and Filipino cultural roots. She and her 3 sisters were raised by a single mother. In her early education, Dr. Senesky attended 8 different schools. She credits these early experiences as formational because she learned an essential skill set: adaptability, resilience, and how to communicate with people from multiple backgrounds.

Growing up in a low-income household made her a natural problem solver. She recalls spending her early days as a young scientist fixing broken cassette players, fiddling with gears, and taking apart electronics and restoring them to good use. She also loved to work on puzzles, which eventually transformed into her love of mathematics. She still sees mathematics and engineering as a giant puzzle. She enjoys manipulating variables and understanding the pieces and their relationships within the overall puzzle.

Dr. Senesky is currently researching "tiny-but-tough" nanomaterials and nanoelectronics for space exploration in her laboratory. She hopes that her work will help us to probe and examine the hot surface of Venus one day.

(Venus) wikipedia.org

Education

Source: Stanford Profiles
(https://profiles.stanford.edu/debbie-senesky)

- B.S., University of Southern California, Mechanical Engineering (2001)
- M.S., University of California, Berkeley, Mechanical Engineering (2004)
- Ph.D., University of California, Berkeley, Mechanical Engineering (2007)

Learn More

https://xlab.stanford.edu/

Research

Source: Stanford Profiles
(https://profiles.stanford.edu/debbie-senesky)

Debbie G. Senesky is an Associate Professor at Stanford University in the Aeronautics and Astronautics Department and by courtesy, the Electrical Engineering Department. In addition, she is the Principal Investigator of the EXtreme Environment Microsystems Laboratory (XLab). Her research interests include the development of nanomaterials for extreme harsh environments, high-temperature electronics, and robust instrumentation for Venus exploration. In the past, she has held positions at GE Sensing (formerly known as NovaSensor), GE Global Research Center, and Hewlett Packard. She received the B.S. degree (2001) in mechanical engineering from the University of Southern California. She received the M.S. degree (2004) and Ph.D. degree (2007) in mechanical engineering from the University of California, Berkeley. Prof. Senesky recently chaired the 2018 Women in Aerospace Symposium (WIA2018) at Stanford University. She has served on the technical program committee of the IEEE International Electron Devices Meeting (IEEE IEDM), International Conference on Solid-State Sensors, Actuators, and Microsystems (Transducers), and International Symposium on Sensor Science (I3S). She is currently the co-editor of three technical journals: IEEE Electron Device Letters, Sensors, and Micromachines. In addition, she currently serves on the board of directors of the non-profit organization Scientific Adventures for Girls. In recognition of her research, she received the Emerging Leader Abie Award from AnitaB.org in 2018, Early Faculty Career Award from the National Aeronautics and Space Administration (NASA) in 2012, Gabilan Faculty Fellowship Award in 2012, and Sloan Ph.D. Fellowship from the Alfred P. Sloan Foundation in 2004.

Prof. Senesky's career path and research has been featured on the People Behind the Science podcast, the Future of Everything radio show, Space.com, and NPR's Tell Me More program. More information about Prof. Senesky can be found at https://xlab.stanford.edu and on Instagram (@astrodebs).

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