The ECE DEI Committee presents
Women's History Month
Weekly Highlight
March 10, 2023

Dr. Aprille Ericsson

Dr. Aprille Ericsson is an inspiring woman in the field engineering, known for her pioneering work in the aerospace industry. She was born and raised in Brooklyn, New York, and went on to earn her Bachelor's degree in aeronautical/astronautical engineering from the Massachusetts Institute of Technology (MIT), followed by a Master's and PhD in mechanical engineering from Howard University. Ericsson-Jackson is the first African-American woman to receive a Ph.D. in mechanical engineering from Howard University and the first African-American woman to receive a Ph.D. in Engineering at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center (GSFC).

Dr. Ericsson's career highlights include her work at NASA's Goddard Space Flight Center, where she has a key role in the development of instruments for several spacecraft missions, including the Hubble Space Telescope and the James Webb Space Telescope. In addition, she has held various leadership roles in the aerospace industry, including serving as the Technical Lead for the Instrument Manager for the Magnetospheric Multiscale (MMS) mission and as the Deputy Project Manager for the Solar Terrestrial Probes (STP) program.

Dr. Ericsson is also a passionate advocate for diversity and inclusion in STEM fields, and engineering and continues to inspire and empower future generations of scientists and engineers, particularly women and people of color.

Dr. Maryam Mirzakhani was born in Tehran, Iran in 1977. She was a talented student from a young age and was twice awarded gold medals in the International Mathematical Olympiad as a teenager. Mirzakhani attended Sharif University of Technology in Iran before pursuing graduate studies in the United States. She earned a Ph.D. in mathematics from Harvard University. Mirzakhani went on to hold faculty positions at Princeton University and Stanford University, where she continued her groundbreaking research in mathematics. In 2014, Mirzakhani became the first woman and first Iranian to receive the prestigious Fields Medal, often referred to as the "Nobel Prize of Mathematics." Mirzakhani went on to hold positions at Princeton University and Stanford University, where she continued her work in mathematics, particularly in the study of complex surfaces and geometry. Her research focused on understanding the structure of surfaces, such as spheres, doughnuts and hyperbolic shapes, and the way that they can be manipulated and transformed. Her work had implications not only for pure mathematics, but also for fields such as theoretical physics and computer science.

Maryam Mirzakhani was a highly respected mathematician, and her contributions to the field were recognized with numerous awards and honors. In addition to the Fields Medal, she received the Clay Research Award and the Satter Prize from the American Mathematical Society, among others. She was also elected to the American Academy of Arts and Sciences in 2017. Tragically, Mirzakhani passed away in 2017 at the age of 40, following a battle with breast cancer. Her legacy continues to inspire and influence the next generation of mathematicians, particularly young women and girls who may see themselves in her story and be encouraged to pursue their own passions in STEM fields.

Women in Iran have faced numerous challenges when it comes to education and pursuing their academic goals. While women make up more than half of Iran's university students, they are often subject to discrimination and bias in the classroom and in the job market. Despite these challenges, many Iranian women have persevered and excelled in their academic pursuits. They have worked very hard to overcome these obstacles, often with support of their families and communities and not the educational system and have made significant contributions to a variety of fields, both in Iran and abroad.

Naomi Halas is a physicist and engineer who has made significant contributions in the fields of nanotechnology and biophotonics. She was born on August 18, 1958, i1 (o)22(h10 (,N-1 (e)- 0 (i))4(h)8)2(t)10 (o)2(n)4(a)8(u)s)6(postdoctoral researcher at AT&T Bell Laboratories. During her time there, she conducted groundbreaking research in the area of surface-enhanced Raman scattering (SERS), which allows for the detection of small amounts of molecules. Her work in this field paved the way for the development of SERS-based sensors and detectors, which have applications in a variety of fields, including medicine and environmental monitoring. In 1990, Halas joined the faculty at Rice University in Houston, Texas, where she is currently a professor of Electrical and Computer Engineering, Chemistry, Physics, and Bioengineering. At Rice, she continued her pioneering work in the area of nanotechnology, developing new methods for producing metallic nanoparticles with controlled shapes and sizes. She also discovered that these nanoparticles could be used to enhance the efficiency of solar cells.

In addition to her work in nanotechnology, Halas is also a pioneer in the field of biophotonics, which involves the use of light to study biological systems. She has developed techniques for using nanoparticles to selectively destroy cancer cells, which could have important applications in cancer treatment.

Halas has received numerous awards and honors for her groundbreaking work, including the National Science Foundation's Alan T. Waterman Award, the APS Frank Isakson Prize for Optical Effects in Solids, and the ACS Award in Colloid and Surface Chemistry. She is a fellow of the National Academy of Inventors, the American Association for the Advancement of Science, and the American Physical Society.

Halas is also a passionate advocate for diversity and inclusion in STEM fields. She has mentored numerous students and early-career researchers, and has worked to promote the participation of underrepresented groups in science and engineering.

Overall, Naomi Halas is a remarkable scientist and role model for women in science. Her groundbreaking work in n

Dr. Katie Bouman is a renowned computer scientist and astrophysicist who has made significant contributions to our understanding of the universe. Born in West Lafayette, Indiana in 1989, Bouman attended the University of Michigan, where she earned a degree in electrical engineering and computer science. She went on