

WOMEN IN STEM



DR. SHIRLEY JACKSON



Find out more about Dr. Jackson
in her recent interview:



Born in Washington, DC, Dr. Jackson developed a passion for physics early on, which expanded as she grew older. Her professional career started after she received her doctorate in Theoretical Elementary Particle Physics from the Massachusetts Institute of Technology (MIT) in 1973, where she became one of the first two Black American women to obtain a Ph.D. in the United States (and the first at MIT). After college, Jackson became a theoretical physicist at Bell Laboratories. She worked on numerous telecommunication projects and conducted scientific research that helped spur the invention of the portable fax machine, the touch-tone telephone, solar cells, fiber-optic cables, etc., and the technology behind Caller ID. This expertise later meant a great demand for her services on both corporate and governmental science boards and advisory committees – including as the Chairman of the U.S. Nuclear Regulatory Commission under the Clinton administration. In 1999, Dr. Jackson became the President of Rensselaer Polytechnic Institute in Troy, New York, where she continues to advocate for social justice and women’s rights, especially within the STEM community.

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DR. CYNTHIA BREAZEAL



Find out more about Dr. Breazeal
(or watch her TedTalk!):



Born in Albuquerque, New Mexico, Cynthia Breazeal spent most of her childhood learning from her parents, who both worked in computer science. As an adult, Breazeal received a Bachelor's Degree in electrical engineering from the University of California and a doctorate from the Massachusetts Institute of Technology (MIT) in electrical engineering and robotics. Her research there focused on developing robots like Kismet, a social interaction robot designed to help study facial expressions and robot-human interaction. Her professional career flourished after college, as she co-founded the company Jibo and conducted research in personal assistant Artificial Intelligence (AI) social robots. These robots primarily focused on helping others and developing personal interaction skills. Dr. Breazeal is a Media Arts and Sciences Professor at MIT, where she founded and directed the Personal Robots group at the Media Lab. She spends most of her time advocating for learning, teaching, and sharing her research about the long-term impact of social robots that can build relationships and provide personal human support.

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DR. JEDIDAH C. ISLER



Find out more on
Dr. Isler's Website:



Growing up in Niagara Falls, New York, Jedidah Isler dreamed of becoming a scientist as a child. She used a telescope her sister gifted her to view the stars every night, and as she grew older, she knew she wanted to work as a professional in science. Years later, Isler received her Bachelor's Degree from Norfolk State University and became the first female Black American to earn her Ph.D. in Physics from Yale University. Her professional career took off when she started to focus on our understanding of particle acceleration, using black holes as a 'laboratory' to observe the process of particle acceleration across the electromagnetic spectrum. From 2013 to 2015, she held a two-year Chancellor's Faculty Fellowship at Syracuse University and was a board member here at the MOST during her time there! Currently, Dr. Isler serves not just as Assistant Professor of Astrophysics at Dartmouth College, continuing to study supermassive black holes, but also as an active philanthropist and committed advocate for STEM education as a pathway to social justice.

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DR. UMA CHOWDHRY



Find out more about
Dr. Chowdhry's groundbreaking
life and work:



Uma Chowdhry grew up in Mumbai, India, and became interested in physics at a young age, prompting her to earn her Bachelor's degree in physics before coming to the United States in 1968. She discovered an interest in chemistry and materials and earned a Master's degree from the California Institute of Technology in Engineering Sciences and a Ph.D. from the Massachusetts Institute of Technology (MIT) in Material Science. Her professional career started after she began working for the Ford Motor Company and later at DuPont as a research scientist in Wilmington, Delaware. Her studies primarily focused on an organic compound called tetrahydrofuran, or THF, a common laboratory solvent used in the materials and coating industry. She also specialized in research on superconductor materials such as ceramics and porcelain. These materials do not usually conduct electricity but are often used as insulators in electrical machines and devices. Dr. Chowdhry made these ceramics into superconductors with groundbreaking applied chemistry, long hours of research, and hard work. This achievement forms a part of many products we use daily, from electronic packaging and batteries to biofuels. Her latest leadership roles at DuPont, built on these successes, made Dr. Chowdhry a leading light in science and business before her retirement in 2010.