

FACULTY FELLOWSHIP

Patricia Caldwell Faculty Fellowship

The Patricia Caldwell Faculty Fellowship was established in 2019 with a generous gift from its namesake to advance the national and international prominence of the Virginia Tech College of Science. A 1971 graduate with a bachelor's degree in mathematics, Ms. Caldwell created this fellowship to recognize faculty engaged in exceptional research and teaching; to recruit accomplished scholars; and to retain high-performing faculty members who make significant contributions to the university's research missions.

Dr. Kevin T. Pitts, Dean of the College of Science, has nominated Dr. Rana Ashkar, associate professor of physics, for appointment to this fellowship. This nomination is supported by the College of Science Honorifics Committee.

Dr. Ashkar joined the Department of Physics in 2018 as an assistant professor and was promoted to associate professor in 2025. She previously held a postdoctoral research scholarship at the University of Maryland and the National Institute of Standards and Technology (NIST) from 2012 to 2015, followed by a Clifford G. Shull Fellowship at Oak Ridge National Laboratory from 2015 to 2017. She received her Ph.D. in experimental condensed matter physics from Indiana University in 2012.

Dr. Ashkar is a recognized investigator in soft matter and biological physics. Her research on biomimetic lipid membranes, responsive polymeric systems, and tunable biointerfaces has gained widespread interest for both its fundamental level and real-world applications. Her groundbreaking discoveries in membrane biophysics have been featured in top-tier journals, including *Proceedings of the National Academy of Sciences* and *Nature Communications*. Her scholarship record includes 50 publications in leading journals and more than 30 invited or keynote presentations at professional conferences. Besides her research excellence, Dr. Ashkar has shown exemplary mentorship. She has supervised 26 undergraduate students, six graduate students, and three postdoctoral fellows at Virginia Tech.

Dr. Ashkar's research has been recognized with funding from a variety of sources. She has received funding from the National Science Foundation (NSF), the Jeffress Memorial Trust, and the Alfred P. Sloan Foundation. In 2025, she received a prestigious Sloan Research Fellowship. She has also been honored with the 2024 Alumni Award for Excellence in Graduate Academic Advising at Virginia Tech. She is very active in service to her research field, including participation on review panels and advisory boards, and as an elected member on several committees within the American Physical Society and the neutron scattering community.

RECOMMENDATION:

That Dr. Rana Ashkar be appointed as the Patricia Caldwell Faculty Fellow for a renewable period of three years, effective August 10, 2025, with operating support as provided by the endowment.

August 20, 2025