



KAAPI WITH KURIOSITY

Of spooky actions and other quantum conundrums

The quantum revolution, birthed at the beginning of the last century, cast our understanding of our world and universe in a completely new light. It introduced strange, counter intuitive ideas – matter can behave like waves, a magnet can point in multiple directions at once, and two atoms can get so strongly correlated or entangled, making a measurement of one of them here on Earth can instantly determine the state of the other even if it is on the Moon (Einstein's spooky actions). It gave rise to an extraordinary understanding of a range of phenomena —how stars radiate, how atoms and elements are constructed, how superconductors function, and more. It forms the basis of many of our creations from semiconductor technology to solar panels to MRI machines. And yet, many of its mysteries remain. In this talk, we will encounter glimpses of this marvelous quantum world. Here and there, I will invoke the poetic through excerpts of our narrative-music-visual performance piece, Quantum Rhapsodies, a creation inspired by the planetarium scripts of my late father, C. V. Vishveshwara, black hole physicist and founder director of the Jawaharlal Nehru Planetarium.

SMITHA VISHVESHWARA

is a Professor of Physics at the University of Illinois at Urbana-Champaign (UIUC), USA. Following several years at The Valley School in Bengaluru, she made her way across the globe to earn a BSc at Cornell University and a PhD studying condensed matter physics at the University of California, Santa Barbara. Her theoretical studies include strongly correlated electronic systems, such as nanomaterials and quantum Hall systems, cold atomic quantum gases, including aboard the International Space Station, percolation behavior in proteins, and parallels of black hole physics in quantum systems. She also brings together science and the arts, collaboratively creating works such as Quantum Voyages, Quantum Rhapsodies, and Universe in Motion. Since her childhood, she has been a regular visitor to multiple institutes in Bengaluru and to the Jawaharlal Nehru Planetarium.

4 pm, Sunday, 12th January 2020,
Jawaharlal Nehru Planetarium, Bengaluru

Register — bit.ly/kwk2020jan | outreach@icts.res.in



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