



भारतीय अंतरिक्ष विज्ञान एवं प्रौद्योगिकी संस्थान

INDIAN INSTITUTE OF SPACE SCIENCE AND TECHNOLOGY

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तिरुवनंतपुरम / Thiruvananthapuram - 695 547

IIST COLLOQUIUM

What is the world made up of?

📅 23-09-2026 ⌚ 03:30 PM 📍 SAC Multipurpose Hall

Abstract: What the world is made up of has been a matter of concern and curiosity to humans from early times. I will set out the modern interpretation of this understanding, called particle physics. In particular, I will try and build the Standard Model of particle physics, which describes particles and their interactions, from basic physics principles, and list a few observations that led to this understanding.

About the Speaker: Dr. Indumathi completed her undergraduate studies in Physics from the Women's Christian College in 1983, and then a Master's in Physics from the Madras Christian College, Chennai. After a short stint working on experimental nuclear physics as a PhD student at Tata Institute of Fundamental Research, Mumbai, she completed her Ph.D. in theoretical particle physics from the Institute of Mathematical Sciences (IMSc), Chennai. She worked on the spin structure of the proton while also writing a short paper on the neutrinos from the supernova SN1987A that were observed when she was a student. Later, after post-docs at the Physical Research Laboratory, Ahmedabad, and the University of Dortmund, Germany, and a brief sojourn at the Indian Institute of Science, Bangalore, she joined Harish Chandra Research Institute, Allahabad, as a faculty member. During this time, she worked on particle physics phenomenology including strong interactions, finite-temperature field theory, and nuclear modifications of strong interaction processes, before moving back to the Institute of Mathematical Sciences, Chennai, in 1998, when she resumed her work on neutrinos. After her retirement from IMSc, she currently holds the Raja Ramanna Chair at the Indian Institute of Astrophysics, Bengaluru. She is interested in science popularisation and is editor of a children's bi-monthly science magazine called Jantar Mantar, focused on high school students. is editor of a children's bi-monthly science magazine called Jantar Mantar, focussed on high school students.



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