

IACS Colloquium from School of Physical Sciences by Prof. Tarun Souradeep, RRI, Bangalore

Speaker: Prof. Tarun Souradeep, Raman Research Institute (RRI), Bangalore

Date & time: 17th, March, 2026 from 4.00 pm to 5.00 pm

Venue: C.V. Raman hall, IACS

Title: Questioning the contemporary cosmic construct

Abstract: The remarkable success of recent cosmology in pinpointing a consistent concordance model relies on several foundational assumptions, including homogeneity, isotropy of the universe, and scale invariance, among others. Increasingly precise cosmological observations, such as the exquisite measurements of the CMB sky from the ESA Planck space mission, have opened up the possibility of robust, independent tests of these assumptions. I will present key results from my research programs on this theme and review the current status of the research. The talk will be a tribute to Professor Jayant Narlikar, who guided my first steps into research.

Bio:

Professor Souradeep, a distinguished cosmologist, is the present Director of Raman Research Institute. Tarun Souradeep graduated as an engineer from IIT Kanpur. After a short stint in automobile design, he decided to pursue a PhD in Gravitation and Cosmology from IUCAA, Pune, where he worked under the supervision of Jayant Narlikar for the first couple of years. He carried out postdoctoral research at the Canadian Institute for Theoretical Astrophysics and Kansas State University before returning to a faculty position at IUCAA. He is currently on deputation leave as a distinguished Professor at IUCAA and has also been the Chair of Physics at IISER Pune. Over 25 years, he has built and led a cosmology group on Cosmic Microwave background (CMB) studies. Souradeep led the sole Indian group within the international team of the Planck CMB space mission of the European Space Agency. His contribution to science has received international recognition. He has been elected fellow of the International Society on General Relativity & Gravitation in 2013 and is a co-recipient of the Special Breakthrough Prize in Fundamental Physics 2016, Gruber Cosmology prize 2016 for the recent discovery of gravitational waves. He is also recipient of some awards in India, including, J. C. Bose Fellowship, Swarnajayanti fellowship, NASI-Scopus award, B.M. Birla Prize, Vikram Sarabhai research award, SASTRA award, among others. He is a fellow of the Indian Academy of Sciences and the National Academy of Sciences, India. He served on numerous key roles in the LIGO-India mega-science project till April 2023, and currently leads an ambitious space mission proposal, CMB Bhārat, to ISRO targeting the discovery of primordial gravitational waves emanating at the birth of the Cosmos.

For further details: <https://www.rri.res.in/about/director>