



INDIAN INSTITUTE OF TECHNOLOGY MANDI

भारतीय प्रौद्योगिकी संस्थान मंडी

Institute Colloquium

“The Strange Physics of Self-Driven Particles”



31st October,
2025



05:00 PM



Auditorium,
North Campus

Prof. Sriram Ramaswamy

Honorary Professor

Department of Physics,
Indian Institute of Science
Bengaluru

“The Strange Physics of Self-Driven Particles”

Prof. Sriram Ramaswamy

Affiliation: Department of Physics, Indian Institute of Science, Bengaluru and
International Centre for Theoretical Sciences, Bengaluru, TIFR.

Abstract:

The study of active matter -- collections of powered particles -- arguably occupies centre-stage in nonequilibrium physics. Living matter is of course active, but many spectacular observations have emerged from experiments on disarmingly simple artificial realisations. After a broad introduction, my talk will present our recent results from theory, experiments and simulations on active systems. I will highlight the roles of chirality and non-mutual interactions, and offer a perspective on controversies and long-term challenges in the field.

Bio-Sketch:

Theoretician with broad interests in nonequilibrium, soft-matter and biological physics; laid down the defining principles of the field known as Active Matter, the study of materials whose constituents, such as cells in a tissue, continually convert a free-energy supply into work.

Career: At IISc Physics since 1986 (currently Honorary Professor); also Endowed Visiting Professor, ICTS-TIFR and Distinguished Visiting Professor, IIT Bombay; Former Director, TIFR Hyderabad (From 2012 to 2016); Postdoc: U Pennsylvania 1983-86. Education: PhD (U Chicago) 1983, BS (high honors, U Maryland) 1977, Higher Secondary (Modern School, Barakhamba Road, New Delhi) 1973. Selected awards & honours: Shanti Swarup Bhatnagar Prize (2000), Infosys Prize (2011); J C Bose Fellow since 2007; Fellow, INSA, IAS, NASI; elected FRS 2016 and International Member, US National Academy of Sciences 2025.

For more Information: Please visit the link; <http://www.physics.iisc.ac.in/~sriram>