



AMERICAN
UNIVERSITY OF BEIRUT
CENTER FOR ADVANCED
MATHEMATICAL SCIENCES



CAMS PUBLIC TALK

STARS AND GALAXIES

TUESDAY, SEPTEMBER 30, 2025

4:00 PM

COLLEGE HALL, AUDITORIUM B1

IN A COURSE



SPEAKER

Seshadri Sridhar

Inter-University Centre for Astronomy and Astrophysics, Pune, India

ABSTRACT

Daylight streams from the Sun, our nearest star; the moonless night sky glows with the light of distant stars and the vast band of the Milky Way. A physical understanding of stars emerged less than a century ago, following the revolutionary theories of relativity and quantum mechanics and the discovery of nuclear reactions. Around that time, it also became clear that stars reside in galaxies — which seemed like spectacular “island universes”—and the Solar System is itself a tiny part of the Milky Way galaxy. The remarkable progress in our knowledge of the universe over the last century has also uncovered some great and enduring mysteries. This talk offers a popular introduction to the nature of stars and the galactic ecosystem, encouraging participants to explore the wealth of images and information now available online.

BIOGRAPHY

Seshadri Sridhar has worked mainly in astrophysical turbulence and the gravitational dynamics of stars in galaxies. The Goldreich–Sridhar theory of magnetohydrodynamic turbulence is used widely to understand phenomena in systems as diverse as the solar system, galaxies, and clusters of galaxies. His contributions in galactic dynamics include: Recognition of the greater regularity of stellar orbits determining the structure of star clusters orbiting supermassive black holes, and the formulation of the kinetic theory of these systems; Demonstration that dynamical friction on globular clusters in the cores of dwarf galaxies is highly suppressed with respect to the Chandrasekhar formula, thereby resolving a long-standing paradox; Proposing a theory of “scars” in disc galaxies and elaborating their role in promoting transient and recurrent spiral structure. His current research is on turbulent convection, toward exploring the convective zones of stars and planets. He was a Professor at the Raman Research Institute (Bangalore, India), and is a Visiting Professor at the Inter-University Centre for Astronomy and Astrophysics (Pune, India).

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