

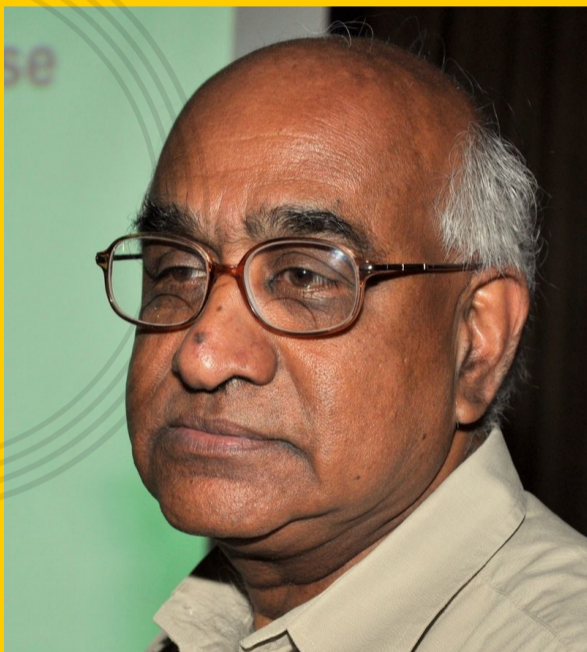
SURAJIT SENGUPTA MEMORIAL LECTURE, 2022

DECEMBER 16, 2022 (Friday)

04:00 PM - 05:30 PM | HYBRID MODE



Prof. Surajit Sengupta was a theoretical physicist known for his contributions to statistical mechanics, materials science, and soft matter physics. He started his academic career at Indira Gandhi Centre for Atomic Research-Kalapakkam and later held positions at S. N. Bose National Centre for Basic Sciences-Kolkata, Indian Association for the Cultivation of Science-Kolkata and Tata Institute of Fundamental Research-Hyderabad where he was the Dean. Surajit investigated a range of problems including structural transitions of colloidal crystals, martensitic transformations, field-driven solids, and statistical mechanics of plasticity. His pioneering work on affine and non-affine fluctuations addressed the origin of rigidity and yielding in crystalline solids. The 'Surajit Sengupta Memorial Lecture, 2022' is being delivered by one of Surajit's mentors from graduate school - Prof. T. V. Ramakrishnan.



High Linear Resistivity in Metals

Prof. T. V. Ramakrishnan

**DAE Homi Bhabha Professor, BHU
Distinguished Associate, Department of Physics, IISc
Honorary Professor, JNCASR**

December 16, 2022 (Friday)

Venue: TIFR Hyderabad Auditorium + Zoom

(Please carry a government issued ID card for entry.)

Prof. T. V. Ramakrishnan has made seminal contributions in the field of condensed matter physics. He has received multiple awards and honours including the Shanti Swarup Bhatnagar Award for Physical Sciences (1982), and the TWAS Award in Physics (1990). In 2000, he became a Fellow of the Royal Society and in the following year, he was awarded the Padma Shri.

Electrical resistivity of clean metals is linear in temperature except at the lowest temperatures. It was discovered in a cuprate (in 1989) that above its superconducting transition temperature (about 7K), the resistivity is linear till about 700K. It is large, shows no signs of saturation, and considerably exceeds the quantum upper limit. This is believed to be a general property of all strongly correlated metals. It is now being noticed that it continues to be linear down to the lowest temperatures when superconductivity is suppressed by a magnetic field. This mystery is not understood. In this talk, I will mostly present experimental illustrations of the above, and say a little about our efforts to unravel the mystery.



Please scan the QR code or use the link below to join the meeting:

<https://bit.ly/3UL3iHj>