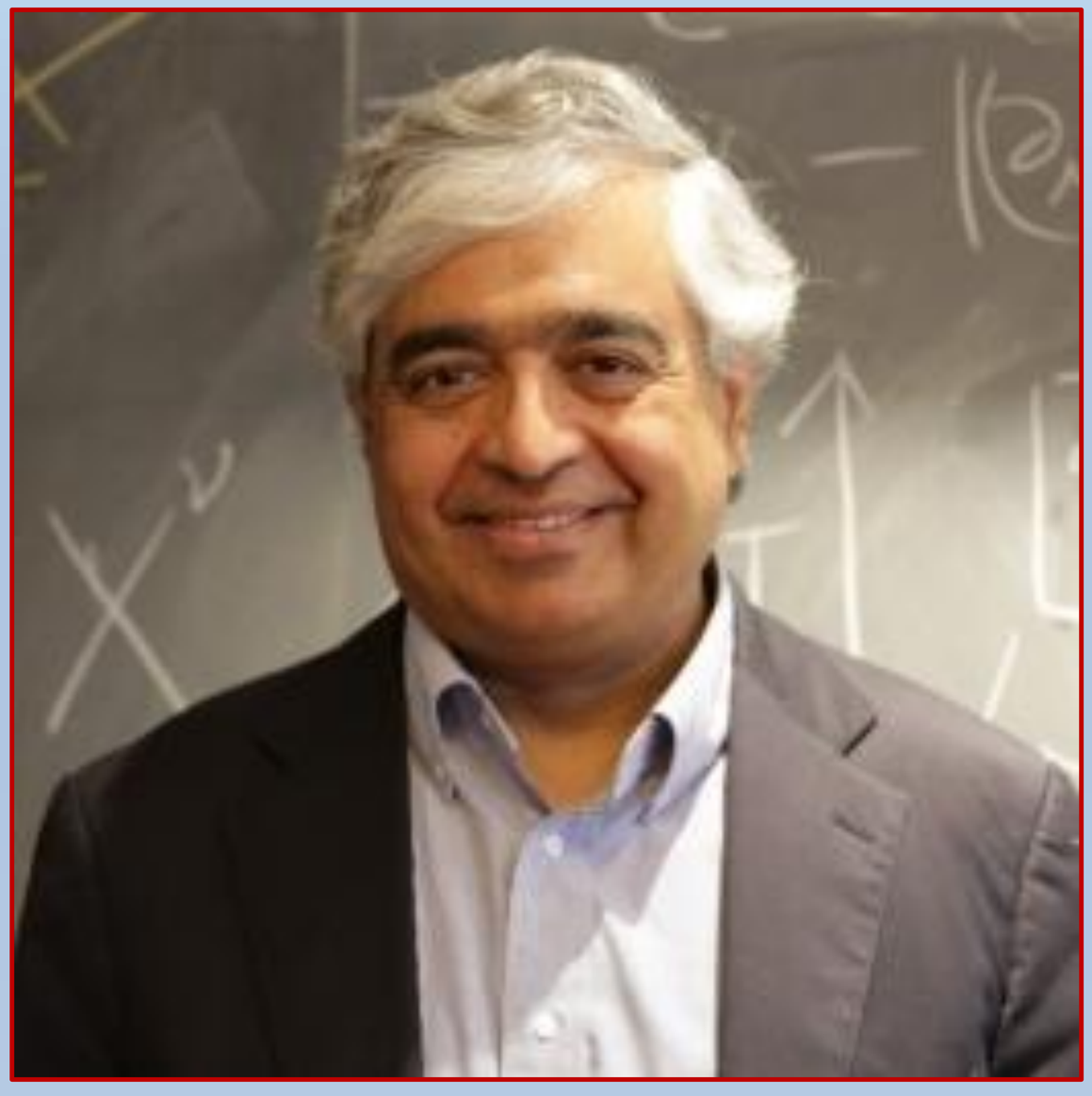
International Year of Quantum Science and Technology (IYQ)-2025, at TCG CREST (Kolkata, India)



Prof. Subir Sachdev
Harvard University, USA.

Date & Time:
19th September, 2025 @ 5:00 PM IST

Venue:
Classroom-4, TCG CREST

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Title – Critical quantum liquids and the cuprate high temperature superconductors

Abstract

Complex many-electron entanglement can give rise to quantum states of matter that lack any well-defined particle-like excitations. Recent theoretical advances in understanding such states have provided significant insight into the diverse phases of the cuprate materials, including high-temperature superconductivity. One such critical state is a particular quantum spin liquid, in which the charge of some electrons is localized, while their spins remain entangled in a scale-invariant manner; it offers a description of the pseudogap phase. Another distinct critical state is associated with the collective dynamics of electron charge, characteristic of the strange metal regime; its theoretical description builds on concepts from the Sachdev-Ye-Kitaev (SYK) model.

Organized by:

CQuERE (Centre for Quantum Engineering, Research and Education), TCG CREST, Kolkata, INDIA

For more details, please visit the website: http://www.tcgcrest.org/iyq2025

For any queries, feel free to contact us through the email: iyq.2025@tcgcrest.org