

JRD TATA MEMORIAL LECTURE

“absolutely mindboggling! weirder than we ever thought”

Prof. Jainendra K. Jain

Founding Director

Lodha Theoretical Physics Institute (LTPI), Mumbai



Placing two-dimensional electrons in a strong magnetic field pulls us into an astonishing quantum world that is populated by some of the most sophisticated and puzzling quantum states found in nature. The fundamental building blocks of this rich landscape of states are exotic particles called composite fermions: electrons dressed with quanta of magnetic field. The speaker will recount the physical motivations that gave the first hints of composite fermions, and describe how a sudden hunch evolved into a predictive and quantitative theoretical framework. He will also touch upon his own journey to illustrate what it takes for someone from a small town in Rajasthan to have a career in physics.

Prof. Jain is the Founding Director, Lodha Theoretical Physics Institute (LTPI), Mumbai, Evan Pugh University Professor & Eberly Chair in Physics, Pennsylvania State University, and Founding Director, Center for Theory of Emergent Quantum Matter (CTEQ), Pennsylvania State University. He obtained a Bachelor's in Physics (Honours) from Maharaja College, Rajasthan University, a Master's in Physics from IIT, and a PhD in theoretical physics from Stony Brook University.

He has guided about 40 PhD and post-docs, coauthored 250 scholarly research articles. He is keenly interested in popularizing science and has delivered several invited lectures.

He has several awards and honours to his credit.

July 29, 2026, at 11.30 a.m.

AG66 Lecture Room

YouTube Live:

<https://youtube.com/live/hQyTzj56My8>



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