INVITED TALK

by

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on

February 05, 2026

Venkateswaran P. Krishnan received his Ph.D. from the University of Washington, Seattle in 2007. After post-doctoral positions at Tufts University and Rensselaer Polytechnic Institute, he joined TIFR Centre for Applicable Mathematics in September 2011, where he currently holds the position of Professor. His research interests are in inverse problems, partial differential equations, integral geometry, and microlocal analysis.

Lecture 1: Egorychev Method for Computation of Combinatorial Sums

In this talk, we will explore the method of Egorychev based on contour integration in the complex plane to analyze and simplify combinatorial terms. Several examples will be presented. The talk will be accessible to a wide audience. Basic knowledge of complex analysis is all that is required.

📍 **Auditorium, Satyakam Bhawan**   🕐 **10:30 am**

Lecture 2: Inverse Problem and its Applications

An inverse problem may be described as a problem of determination of model parameters of an object (for example, its conductivity) based on measured or observed data from the exterior/boundary of the object. This requires sending waves such as X-rays, light waves, pressure waves or sound waves through the object of interest, measuring the response at the boundary, and analyzing it to determine the object parameters. We present a broad overview of inverse problems and its applications in several fields such as medical, seismic and sonar imaging and non-destructive material testing to name a few.

📍 **Room 5, Satyakam Bhawan**   🕐 **02:30 pm**

Tarun Kumar Das
HEAD