



भारतीय प्रौद्योगिकी संस्थान मंडी
INDIAN INSTITUTE OF TECHNOLOGY MANDI

Institute Colloquium

“Euler’s product formula and the Ramanujan sum”



5th May, 2025



05:00PM



Auditorium, North
Campus

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Euler's product formula and the Ramanujan sum

Gadadhar Misra

Abstract: We will discuss the product formula of Euler, namely,

$$\prod_{p \in \mathbb{P}} \left(\frac{1}{1 - \frac{1}{p^s}} \right) = \sum_{n=1}^{\infty} \frac{1}{n^s}$$

and the mysterious claim of Ramanujan below

$$1 + 2 + 3 + \cdots = -\frac{1}{12}.$$

Biosketch:

Prof. G. Misra received a Ph.D. from Stony Brook University in 1982. After returning to India in 1985, he joined the Indian Statistical Institute, where he worked until 2007. Subsequently, he moved to the Indian Institute of Science and remained there until superannuation in 2021. He has served as the Head of the Indian Statistical Institute, Bangalore, and as the Chairman of the Department of Mathematics at the Indian Institute of Science.

In recognition of his research contributions, G. Misra has received several honors, including the following.

- J. C. Bose National Fellowship, DST (2008–2023)
- Alumni Award for Excellence in Research, Indian Institute of Science, Bangalore (2019)
- Biju Patnaik Award for Scientific Excellence, Odisha Bigyan Academy (2013)
- Fellow, National Academy of Sciences, India (2011)
- Fellow and Vice President (2018–2020), Indian National Science Academy (2009)
- S. S. Bhatnagar Prize, CSIR (2001)
- Fellow, Indian Academy of Sciences (1999)