



INDIAN INSTITUTE OF TECHNOLOGY MANDI

भारतीय प्रौद्योगिकी संस्थान मंडी

Institute Colloquium

**“Engineering Safe Structures:
Integrating Computation and Experimentation”**



**19th September,
2025**



05:00 PM



**Auditorium,
North Campus**

Prof. (Retd.) C S Manohar

**Department of Civil Engineering
Indian Institute of Science,
Bangalore**

Title of the talk:

Engineering Safe Structures: Integrating Computation and Experimentation

Biref Bio:



Prof. C S Manohar is a retired Professor from the Department of Civil Engineering at the Indian Institute of Science, Bangalore. His research interests are in the areas of structural dynamics, structural reliability, system identification, earthquake engineering, and structural fire engineering. He has employed computational, experimental, and machine learning based methods in his research.

He obtained his Ph.D. in 1990 from IISc. His doctoral thesis was in the area of nonlinear random vibrations. During 1990-91, he served as a scientist at the CSIR Structural Engineering Research Centre (Madras), during which time he worked in the area of wind engineering. He spent two years at the University of Oxford (1991-93) as a post-doctoral researcher working in the area of high-frequency vibration problems in aircraft structures. He joined IISc as an Assistant Professor in 1993, and he served at this Institute till July 2024 when he retired from its services. He has held visiting faculty positions at Johns Hopkins University (USA), the University of Delaware (USA), and Carleton University (Canada).

He has been on the Editorial Board of several journals, including ASCE Journal of Structural Engineering, Probabilistic Engineering Mechanics, Structural Safety, and Structural Control and Health Monitoring. He is one of the Senior Editors of Sadhana (Academy Proceedings in Engineering Sciences, Indian Academy of Science). He is presently serving as a member on the ARDB Structures Panel. His research at IISc received extensive funding from agencies such as the BRNS, DST, CSIR, ISRO, ARDB, Indian Railways, and UKIERI. He has also been a

consultant (in the area of vibration engineering) to several organizations, including BHEL, IGCAR, Honeywell, EMRC, GE India, RPCL, Mfar holdings, and DRDO labs.

He has mentored 13 Ph.D. students, 20 MTech (Research) Students, and 60 M Tech project students. He has published ~100 refereed journal papers.

Abstract:

Civil engineering structures, built from diverse materials, face extreme loads from natural/manmade events like earthquakes and heavy traffic. This colloquium explores modern perspectives on structural safety, robustness, and resilience, showing how these challenges have driven cutting-edge research in structural engineering. It highlights advances in computational modelling, laboratory/field testing, and innovative hybrid approaches integrating both. The speaker will share insights from his research group's work on combining computational and experimental methods in structural dynamics, introducing methodological novelties that advance methods for structural safety analysis, design, and testing.