



INSTITUTE FOR STEEL DEVELOPMENT & GROWTH

Webinar on

Tensile Membrane Structures

Time: 15-Oct-2022, Saturday, 4:00-5:15 pm (IST) (45 min talk + 30 min Q&A)

Abstract:

Over the last two decades, tensile membrane structures (TMS) have gained a foothold in the permanent construction of different structures. TMS are made of lightweight fabrics and are used to cover vast areas like airport terminals, stadiums, etc. These structures are not only lightweight and efficient, but they also allow for an environmentally responsible and quick construction process. TMS are far more sophisticated than their historical counterparts of membrane-based tents. TMS differs from traditional (timber, steel, or concrete) structures in that they are highly nonlinear and force-active. The membrane shape can change significantly under external loading.

Despite TMS having been deployed extensively in India over the last decade, there is currently no national standard or even a formal guideline for TMS; neither there is any consolidated research effort outside a group from IIT Bombay. This webinar will be aimed at providing a basic introduction to the implementation of TMS and create awareness among the academic community and practising engineers on the challenges in form-finding, load analysis, design, patterning and lifecycle management of these structures. Furthermore, recent findings from the TMS research group at IIT Bombay and the workings of the BIS working group on TMS will be shared.

Speaker

Dr. Siddhartha Ghosh

**Jitendra K. & Meena J. Mehta Chair Professor
Department of Civil Engineering, IIT Bombay**

After completing the Ph.D. from the University of Michigan in 2003, Professor Siddhartha Ghosh joined IIT Bombay, where he has held various academic positions over the last two decades.

His research interests are primarily in the application of probabilistic methodologies in civil infrastructure risk reduction. In recent years, he has supervised postgraduate students working in the areas of analysis and design of tensile membranes, value of information in structural health monitoring, risk analysis in earthquake engineering, and the use of topology optimization in structural design. He also manages the 'Structural Safety, Risk and Reliability (SSRR) Lab' at IIT Bombay.

Prof. Ghosh teaches graduate and undergraduate courses in structural engineering and probabilistic methods at IIT Bombay. He consults in areas related to structural dynamics, structural reliability, bridge safety, and the design, NDT & retrofit of steel and RC structures. Currently, he is the convenor of the Bureau of Indian Standards' working groups on 'tensile membrane structures' (CED38/WG-2) and structural health monitoring' (CED37/WG-5). Currently, Prof. Ghosh is the Dean (Educational Outreach) at IIT Bombay.

No Registration Fee.

Kindly Register by sending email to ins.steel@gmail.com with Name, Email id and contact no. for the joining link within October 12, 2022 (last date).

Participants: Students, Professors, Architects, Professionals, Consultants, Infrastructure Developers, Steel Producers, Engineering & Construction Companies.

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