

Title:

High-performance Membrane Buildings and Challenges

Organizers:

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Abstract:

Membranes buildings with good light transmittance and/or high strength-to-weight ratio have attracted considerable attention in recent decades. Generally, membrane buildings (with fabrics and polymers), are typical spatial structures and good candidates to utilize solar energy and interact with external environments, resulting in complex coupling mechanisms (solar energy, dynamic fluid, nonlinear structural behavior and indoor environment). The understanding of these issues to obtain suitable multifunctional building performance needs new ideas, novel methods and design. To achieve these aims, creative ideas for membrane structures are indispensable for corresponding researchers and engineers.

The Gap That This Session Will Address:

1. New membrane materials to enhance energetic, building and environment performance
2. Theoretical methods for analyzing and predicting multifunctional building performance
3. Numerical and experimental validations for high-performance of membrane buildings

Overall Purpose of This Session:

This session could be a bridge for potential speakers and interested audiences to discuss barriers of multifunctional performance of membrane structures. The discussion is meaningful for minimizing the gaps between research and applications while providing potential research directions for future study. And I strongly believe that this conference session could contribute to the success of Structural Membranes 2021.

Thank you very much in processing my proposal and I am looking forward to your reply.

Yours sincerely

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