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Elegant Mast Structures

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ABSTRACT

The author wants to share insights on the creative process specific to structural engineering of mast supported structures drawing from direct experiences of the design of unconventional structures over his 30 year career and citing projects designed by the author's mentors. The author will explore the creative structural engineering design process for elegant mast structures with examples of built projects that he was a key member of the design team including the Pavilion of the Future at the EXPO '92 in Sevilla, the Sony Center Forum Roof in Berlin, the Taichung Botanical Gardens Tropical Rainforest Greenhouse and other projects. The focus will be on lightweight membrane structures and tension structures with masts and cables and/or tension rods. Other types of projects that including glass and steel frame structures supporting glass will be examined. The author will describe his work experiences being mentored and observing the design methods of exceptional engineers such as 1992 Royal Institute of British Architects (RIBA) Gold Medal recipient Peter Rice and the Institution of Structural Engineers (IStructE) Gold Medal recipient Tristram Carfrae also with a focus on mast supported tension structures or similar structural systems.

REFERENCES

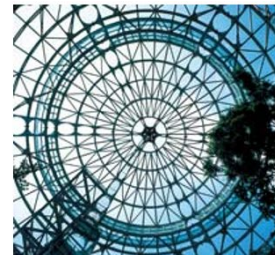
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Pavilion of the Future Stone Arches, EXPO '92



Sony Center Berlin Forum Roof



Taichung Greenhouse