

10:00 – 10:30 Key-note lecture

“Conceptual design of material-efficient curved structures”

held by Dr. Leonardo Todisco, Universidad Politécnica de Madrid

Curved structures are characterized by the critical relationship between their geometry and structural behaviour, and selecting an appropriate shape in the conceptual design of such structures is important for achieving material-efficiency. This talk illustrates how external posttensioning strongly increases the material-efficiency of some specific structural typologies and expands the range of possible forms that exhibit a bending-free behaviour. De facto, this talk illustrates new possibilities for designs that combine high-performing solutions with architectural freedom.



Leonardo is currently an Assistant Professor at the Technical University of Madrid. Graduated at Politecnico di Bari, then he earned a Ph.D and a M.Eng from the Technical University of Madrid. He has been visiting researcher at University of Stuttgart and MIT. He works on combining classical structural principles with interactive design-oriented tools for the conceptual design of high-performance structures. His main research investigates the dialog between form and structural behaviour focusing on the development of innovative structural systems which provide efficiency of material and elegance of form. He has been awarded the 13th IASS Hangai Prize and the UPM PhD Excellence Award.

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