

4 de Junho | 15h00 – 16h00

Faculdade de Ciências e Tecnologia

Universidade Nova de Lisboa

Ed. IX, sala 4.17

palestras

de ENGENHARIA CIVIL na NOVA



About the Network Arch Bridges

History, Concept, Bridges Around the World, A Case Study

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Network arch bridges are tied arches with inclined hangers that cross each other at least twice. The beauty and efficiency of such a structure lies in the fact that the inclined hangers with multiple intersections make the network arch act like a truss, subjected mostly to tension and compression forces. Bending moments and shear forces are very small.

This presentation explains how the idea of a network arch bridge came to its inventor, the Norwegian Engineer Per Tveit, and illustrates the development of network arches in the past decades. Briefly, the elements of a network arch will be presented, followed by an overview of arch bridges built around the world.

In order to emphasize the efficiency of such structures, a case study analyzing a 77m span road network arch bridge is presented. The results prove once again that this type of structural solution should be taken into consideration for any new bridge project.

