Special Lecture on *Wind effects on bridges and buildings*

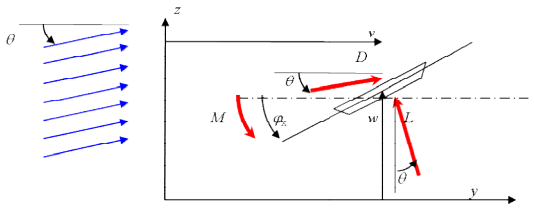
by Felix Nieto, Associate Professor, School of Civil Engineering, University of La Coruña, Spain

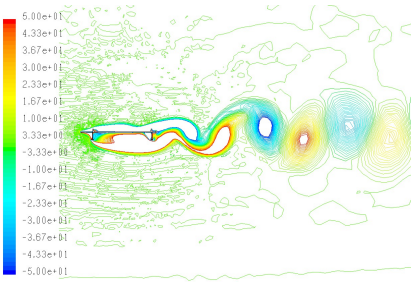
Venue: Monday November 19th, 4.00 PM at Hall L3-CRU Faculty of Civil Engineering

1st year Structural Engineering Master Program at FILS-UTCB

[Content]

The lecture on wind effects on bridges and buildings aims to review the different phenomena that may happen when wind interacts with structures such as bridges and buildings. Different examples are used in the exposition to better illustrate the impact that wind loads may have on the built environment, and emphasis is made on long-span bridges. The main contents are the following characterization of wind in the atmospheric boundary layer, mean wind load, wind-induced vibration and aeroelastic instability, wind tunnel testing and CFD applications in wind engineering.





This lecture reviews and discusses the two different typologies that were used in the second half of the 19th Century to span wide rivers and estuaries: suspension and cantilever bridges. Some of the outstanding examples in those days such as the Firth of Forth Bridge or the Brooklyn Bridge are discussed. This lecture exemplifies how previous failures and technological and scientific developments help to improve engineering practice.

[Short bio]

Félix Nieto is Associate Professor in the School of Civil Engineering at the University of La Coruña in Spain, where he has been a faculty member since 2002. He teaches courses in Structural Analysis, Fluid Mechanics and Bridges at Bachelor and Master levels. His research interests are related with the applications of optimal design techniques in long-span bridges and CFD-based simulations of aerodynamic and aeroelastic phenomena of interest in bridge engineering. He is member of the Spanish section of the IAWE and he is member of ASCE.