UNIVERSITÀ DEGLI STUDI DI GENOVA

SCUOLA DI DOTTORATO DI MECCANICA DEI FLUIDI E DEI SOLIDI
Dottorato in Fluidodinamica e Processi dell'Ingegneria Ambientale
Progetto Marie Curie EST "FLUBIO"

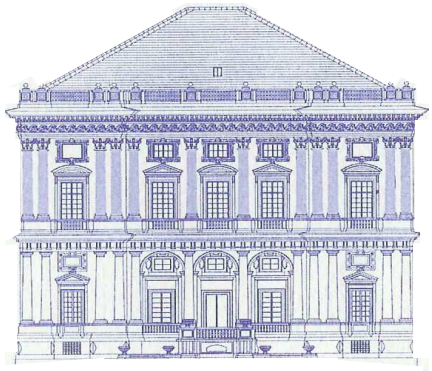
AVVISO DI SEMINARIO

"Modelling flow instabilities by time-resolved CFD and Proper Orthogonal Decomposition"

Dr. Aldo Rona

Department of Engineering
University of Leicester
Leicester, UK

Giovedì 3 Aprile, 2008 – ore 16.00
Facoltà di Ingegneria,
Aula A11, atrio DICAT
Villa Giustiniani Cambiaso



Per informazioni contattare il Coordinatore del corso di Dottorato
Prof. Alessandro Bottaro, bottaro@dicat.unige.it

Modelling flow instabilities by time-resolved CFD and Proper Orthogonal Decomposition

This seminar concerns the macroscopic flow instability affecting a range of engineering flows (circular cylinders, turbine blades, rectangular and cylindrical cavities). The talk will touch on flow control and on the use of proper orthogonal decomposition to obtain a reduced-order model of these unsteady flow fields. The talk will conclude with the work in progress on generating analytical solutions for cylindrical cavity eigenmodes that is relevant for modelling the flow instability and noise from aircraft fuel vents.

Biographical sketch of Aldo Rona

Aldo Rona received a B.Eng.(Hons) from the Department of Aeronautics, City University, London, in 1993 and a Ph.D. from the University of Southampton in 1997. There he was EPSRC Research Fellow with the Department of Aeronautics and Astronautics, and studied vortex-boundary layer interactions by laser velocimetry. He then joined the Department of Aeronautics and Aerospace at the von Karman Institute for Fluid Mechanics (Belgium) as EU Marie Curie Fellow (1998). At the end of 1998 he was appointed Lecturer in Thermofluids at the Department of Engineering of the University of Leicester. Dr. Rona conducts active research on unsteady aerodynamics, with a focus on flows exhibiting self-sustained instabilities and generating noise. He has developed and is developing CFD software for complex compressible 3D flows using body-fitted curvilinear multi-block meshes, including adaptive mesh refinement.

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