



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"

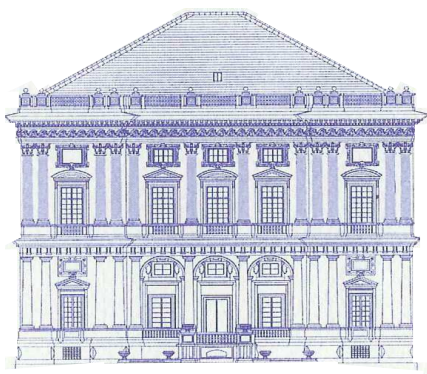
## AVVISO DI SEMINARIO

### **"Overview of CIRA Activities on Flow Control"**

Ing. Raffaele Donelli

Centro Italiano Ricerche Aerospaziali  
Capua

Martedì 29 Aprile, 2008 – ore 14.00  
Facoltà di Ingegneria,  
Aula A13, atrio DIMSET  
Villa Giustiniani Cambiaso



Per informazioni contattare il Coordinatore del corso di Dottorato  
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## **Overview of CIRA Activities on Flow Control**

Some years ago, CIRA began to investigate promising flow control technologies in the framework of the internal technological program HALEWING (High Altitude Long Endurance WING). The objectives were to investigate the most promising flow control techniques, to develop in house numerical and experimental capabilities to correctly predict aerodynamics performances in presence of flow control, to develop new flow control concepts to raise the Technological Readiness Level and integrate these technologies in an unmanned flying platform under development. These objectives have been pursued through the promotion and participation to national as well as European funded projects. In this seminar, after a short presentation of the Italian Aero-spatial Research Center (site and main facilities), an overview of the flow control concepts investigated will be given. An in-depth presentation on current investigations on "trapped vortex" flow control devices will follow.

## **Biographical sketch of Raffaele Donelli**

Raffaele Donelli received an Engineering Degree in Aeronautical Engineering from the University of Naples in April 1990, with a thesis centred on transition in a boundary layer. He then joined C.I.R.A. (Italian Center for Aerospace Research) as a researcher in fluid dynamics. His main research interests are in boundary layer flows, laminar boundary layer stability, active flow control, aerodynamic analysis and natural laminar flow airfoil design. He is currently responsible for the research group "Instability, Transition and Flow Control" in the "Applied Aerodynamics Laboratory" of CIRA. He has a significant experience in EU and national projects on topics like laminar flow control technology (ELFIN, EUROTRANS, EPISTLE, EUROLIFT, ALTTA, SUPERTRAC, TELFONA) and active flow control (VCELL2050, HALEWING High Altitude Long Endurance WING) both as technical researcher and work package manager. He was the coordinator of the national program HALEWING focused on UAV technology and he is currently the Prime Investigator for the "PAYLOAD 4-Flight Transition Experiment" of the ESA program EXPERT. Raffaele Donelli is the author of several papers and acts as a referee for the Italian Ministry of University and Research.