ADMISSION AND ACCOMMODATION

Applicants must apply at least one month before the beginning of the course. Application forms should be sent on-line through our web site: http://www.cism.it or by post.

A message of confirmation will be sent to accepted participants. If you need assistance for registration please contact our secretariat.

The registration fee is 600,00 Euro.

A limited number of participants from universities and research centres who are not supported by their own institutions can be offered board and/or lodging in a reasonably priced hotel. Requests should be sent to CISM Secretariat by July 14, 2009 along with the applicant’s curriculum and a letter of recommendation by the head of the department or a supervisor confirming that the institute cannot provide funding. Preference will be given to applicants from countries that sponsor CISM.

The Deutscher Akademischer Austausch Dienst (DAAD) and the Deutsche Forschungsgemeinschaft (DFG) offer support to German students. Please contact:

DAAD, Kennedyallee 50, 53175 Bonn
tel. +49 (228) 882-0
e-mail: postmaster@daad.de
web site: http://www.daad.de/de/kontakt.html

DFG, Kennedyallee 40, 53175 Bonn
tel. +49 (228) 885 2655
e-mail: ing4@dfg.de
web site: http://www.dfg.de

Information about travel and accommodation is available on our web site, or can be mailed upon request.

Please note that the centre will be closed for summer vacation the first three weeks in August.

For further information please contact:

CISM
Palazzo del Torso - Piazza Garibaldi 18
33100 Udine (Italy)
tel. +39 0432 248511 (6 lines)
fax +39 0432 248550
e-mail: cism@cism.it
ENVIRONMENTAL WIND ENGINEERING AND WIND ENERGY STRUCTURES

Following the success of the CISM course on Wind Effects on Buildings and Design of Wind-Sensitive Structures offered in 2006, this advanced professional training course, co-promoted by ANIV (Italian Association for Wind Engineering) addresses the positive and negative effects of wind on buildings and the urban environment. Positive effects refer, e.g., to ventilation in “heat islands” as improving the microclimate of urban areas and, of course, to the wind energy, an important source for sustainable and renewable energy production; whereas negative effects refer mainly to the environmental influence of wind on pedestrians and potential reinjection of pollutants originating from buildings, issues for which the state-of-the-art of analysis and design procedures has been advanced significantly.

Environmental aerodynamics has progressed in the last decade, particularly regarding the computational front. The course will present the fundamentals of both experimental and computational approaches along with examples from actual studies involving pedestrian level winds, comfort levels, relevant legislation and remedial measures. Pollutant dispersion in the building environment will be also presented and discussed along with the methodologies available to deal with potentially critical design problems, which if left unattended, jeopardize the successful operation of new construction developments. Wind energy production involves special wind turbine structures, the design of which requires special reliability assessment. Experimental and computational approaches will be presented and case studies will be analyzed in order to make the participants familiar with the uncertainties involved and the design methodologies currently available.

This course will be of interest to doctoral students, junior and senior researchers, practicing engineers, architects and other design professionals, who work on relevant scientific research or design topics in research centers, universities, industry and government agencies.

PRELIMINARY SUGGESTED READINGS


http://www.gigawind.de/

LECTURES

All lectures will be given in English. Lecture notes can be downloaded from CISM web site, instructions will be sent to accepted participants.

INVIDTED LECTURERS

Charalampos C. Baniotopoulos - Aristotle Un. of Thessaloniki, Greece 5 lectures on: “Design of wind energy structures”. Overview of the typical design process of wind turbine towers, structural analysis models, loading and design checks, stability issues of the cylindrical/conical shells, stiffeners, door openings, design of the foundation, anchoring systems, pre-tensioned bolts/connectors. Optimization issues and innovative aspects with respect to the tower design.

Bert Blokken - Technical University of Eindhoven, The Netherlands 5 lectures on: “Computational wind engineering (CWE)”. CWE for building aerodynamics, with special emphasis on grid quality, turbulence modelling, consistent atmospheric boundary layer modelling, verification and validation. Case studies will be presented where CWE has been applied to analyse pedestrian-level winds and air pollutant dispersion around buildings.

Claudio Borri - Università di Firenze, Italy 5 lectures on: “Large wind turbines in earthquake areas: structural analyses, design/construction & in-situ testing”. Static and dynamic analyses of wind turbine towers, aerelastic loads by large rotor blades, wind–earthquake load combination; design and verification of r.c. prestressed elements and longitudinal prestressing; verifications according IEC 61400, Eurocodes and Italian standards; design and verifications of foundations structures; piled and superficial foundations (with and without buoyancy); construction/erection technology; monitoring and testing techniques on site (through radar interferometry).

Rex Britter - University of Cambridge, UK 5 lectures on: “Dispersion of pollutants”. Dispersion in the urban environment, regional, city, neighbourhood, street and source scales. Urban climatology, regional air pollution models, estimation of transport of pollutants from and to cities. Field experimentation and CFD applications.

Peter Schaumann - Leibniz University Hanover, Germany 5 lectures on: “Steel substructures of onshore and offshore wind energy systems”. Wind energy converters, in particular loads and load cases for structural design, safety concept, discussion of different types of substructures; detailed design and assessment of ULS (buckling, fatigue, connections), loads and design of offshore substructures, erection process, recent research results.

Ted Stathopoulos - Concordia University, Canada 5 lectures on: “Environmental aerodynamics”. Introduction to environmental aerodynamics and the description of the wind characteristics including the significance of turbulence, exposure and climatology from the design perspective. Wind environmental issues, pedestrian winds, dispersion of pollutants in the building environment.

Alberto Zasso - Politecnico di Milano, Italy 5 lectures on: “Aerodynamic design of wind structures”. Introduction on the state of the art guidelines for the aerodynamic design of wind turbines (codes and numerical methods). Wind tunnel test challenges in Wind Energy: orography and wake effects on power generation. Wind turbines scale modelling and wake characterization techniques for wind tunnel testing.
Application Form
(Please print or type)

Surname _________________________________________
Name ___________________________________________
Affiliation ________________________________________
Address_____________________________________________
_______________________________________________
E-mail __________________________________________
Phone ___________________ Fax______________________

Method of payment upon receipt of confirmation (Please check the box)
The fee of Euro 600.00 includes IVA/VAT tax and excludes bank charges

❏ I shall send a check of Euro _________________________________________

❏ Payment will be made to CISM - Bank Account N° 094570210900,
VENETO BANCA - Udine (CAB 12300 - ABI 05418 - SWIFT AMBPIT2M - IBAN
CODE IT83 Z05418 05418 12300 09457 0210900).
Copy of the receipt should be sent to the secretariat

❏ I shall pay at the registration counter with check, cash or VISA
Credit Card (Mastercard/Eurocard, Visa, CartaSi)

IMPORTANT: CISM is obliged to present an invoice for the above sum. Please indicate to whom the invoice should be addressed.

Name ______________________________________________________________________________________________________
Address __________________________________________________________________________________________________
____________________________________________________________________________________________________________
____________________________________________________________________________________________________________
C.F.* ______________________________________________________________________________________________________
VAT/IVA* No. ______________________________________________________________________________________________
(*) Only for EU residents or foreigners with a permanent business activity in Italy.

Only for Italian Public Companies
❏ I ask for IVA exemption (ex law n. 537/1993 – art. 14 comma 10).

Privacy policy: I understand that data received via this form will be used only to provide information about CISM and its activities, within the limits set by the Italian legislative decree no. 196/2003 and subsequent amendments.
Complete information on CISM's privacy policy is available at www.cism.it.

I have read the "Admission and Accommodation" terms and conditions and agree.

Date ___________________ Signature __________________________________