International Ph.D. Course
(Europ. GraduiertenKolleg 802 of the DFG, Deutsche Forschungsgemeinschaft)

“PROCESSES, MATERIALS AND CONSTRUCTIONS IN CIVIL AND ENVIRONMENTAL ENGINEERING AND FOR THE PROTECTION OF THE HISTORIC-MONUMENTAL HERITAGE”

Topics of the Course:

DESCRIPTION OF THE GENERAL SUBJECT

The course will deal with the central and most innovative subjects of the Civil and Environmental Engineering as analysis methods, materials and constructions.

The topics are:
a) analysis, monitoring, control and reduction of the risk induced by the natural calamities and by the human actions on the built environment;
b) defense of single constructions and of the existing historical heritage in Europe.

The course is articulated in 4 educational directions:
- wind, earthquake, soil and waters action and their interaction with the structures and infrastructures;
- the seismic, wind, geotechnical, hydraulic and hydro-geotechnical risk;
- the climatic changes and their effects on the environment and on the atmosphere;
- the techniques and the tools for the defense, the analysis, the monitoring of the existing heritage: monumental, building, infrastructural, environmental, of the air and of the waters;
- the valorization, the innovation and the development of the analysis methods, forecast and assessment of the risk, the damages and the costs;
- the techniques and the statistical methods for the socio-economical aspects of the risk, the damages and costs;
- the recovery and the conservation of the architecture of the 1900’s;
- optimization of the building processes and safety and construction management;
- the study of innovative materials for structural and non-structural elements.

A three-year Ph.D. Course with exchange stay at both partner Universities of 3 months at the 1st year and 9 months during the 2nd and the 3rd year. Intensive monographic Courses will be offered in the first year by an international teaching staff.

Co-ordinators: Prof. C. Borri (Florence) & Prof. U. Peil (Braunschweig)

DEADLINE for CANDIDATURES: October, 11th, 2010

12 candidates admitted
6 SCHOLARSHIPS AVAILABLE

Information:  http://www.unifi.it/CMpro-v-p-6670.html  (Italiano) or  http://dottint.dicea.unifi.it/  (English)

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