**THE ROSE SCHOOL**

The European School of Advanced Studies in Reduction of Seismic Risk (ROSE) was founded in the autumn of 2000, with the aim of providing higher-level education in the field of earthquake engineering. The syllabus offers a comprehensive set of subjects covering applied mechanics, structural engineering, earthquake engineering, engineering seismology, and soil dynamics, with emphasis on both theoretical background and design considerations.

Each course is intensively taught in a period of four to six weeks, during which the respective lecturer is able to fully dedicate his/her time and efforts exclusively to the scholastic activities at the school, thus ensuring teaching and research training at the highest possible levels of quality. The School also relies on advanced numerical and experimental facilities, including the large structural laboratory of the University of Pavia. Academic activities take place in a number of dedicated classrooms and computer labs, located within the same building complex where all students are hosted.

All of the above endows a truly unique character to the ROSE School, be it for its fully international nature or for its innovative organisation in education and research training in the field of Earthquake Engineering.

**INTERNATIONAL ROSE SCHOOL SEMINARS**

As a part of the ROSE program, an International seminar is organised every year, to provide the School students with an opportunity to present and discuss their research work to an audience of international experts. An exception to this rule was made in the First International ROSE School Seminar where, for obvious reasons, there were no experts. An exception to this rule was made in the First International ROSE School Seminar where, for obvious reasons, there were no experts. An exception to this rule was made in the First International ROSE School Seminar where, for obvious reasons, there were no experts. An exception to this rule was made in the First International ROSE School Seminar where, for obvious reasons, there were no experts.

In addition to standard presentations on research work carried out at the School, the annual Seminars feature also the tradition of inviting a prominent scientist to deliver a keynote lecture on a given contemporary and highly relevant topic in the field of Earthquake Engineering. At this year’s event, such keynote address will be delivered by Professor Michael Collins (University of Toronto, Canada) and is titled “The Art of Structural Engineering”.

It is also foreseen that all contributions to the seminar will be published, after a standard review process, in a special issue of the Journal of Earthquake Engineering, which will be distributed to all participants and journal subscribers in the beginning of the year 2005. Copies of the JEE Special Issues containing the proceedings of the three previous editions of this annual Seminar are available from the ROSE School Secretariat, on request.

**ATTENDING THE EVENT**

As in its previous editions, a large number of the ROSE Faculty members, listed overleaf, will be attending the Seminar, ensuring a lively and entertaining workshop. Further, it is noted that relatively extended times are allocated for the presentation of each paper, so that indepth and highly technical discussions can take place.

In addition to ROSE faculty and students, a maximum of 50 external participants may also be accepted, for which reason professionals and researchers worldwide are encouraged to take part in the event. A 160€ fee is required from external attendees, to cover for the cost of coffee/lunch breaks, seminar dinner and proceedings. Special financial conditions are, however, in place for University researchers or students, to whom a fee of not more than 120€ is usually requested.

Those who wish to attend the Seminar are kindly invited to compile and submit the registration form to the ROSE School Secretariat, at the address given overleaf. If you need assistance of any kind (registration form, accommodation, travelling directions, etc.), please do not hesitate in contacting our Administrative Officer, Ms. Sandra Castelli, rose@unipv.it. You may also refer to the ROSE website for further information on all ROSE School activities.

**VENUE**

The ROSE School is located at the Collegio Alessandro Volta, in Pavia, a historical town in the North of Italy (35 km from Milan), full of university tradition and fame. The Collegio itself, however, is a recent facility, opened in the year 2000, featuring combined teaching and residential facilities. All Seminar activities will therefore take place within the School’s facilities, more specifically at its main amphitheatre (Aula Magna).

**POST-SEMINAR ACTIVITIES**

As part of its PhD admission procedure, a written/oral examination takes place, once a year, at the ROSE School. The scheduling of such exam is always made to coincide with the week of the International Seminar, so as to capitalise on the contemporaneous presence of a large number of the School’s academic staff. The 2004 PhD entry written examination will take place on the morning of Thursday 3rd, whilst oral interviews will be conducted on Friday 4th. All ROSE School faculty members are invited to take part.

**PROGRAMME OF THE SEMINAR**

**Monday 31st May**

10.00 - 13.00  ROSE School Board Meeting
13.00 - 14.00  Welcome party and registration
14.00 - 16.00  Session 1 - Chairman: J.J. Bommer
C. Belltrami*, C. Lai, V. Pano and A. Pecker
A refined methodology for assessing seismic soil-pile structure interaction in engineering practice
F. Fele*, E. Faccioli and A. Calleria
Seismic analysis of an underground railway station, including SSI
P. Mergos* and K. Kawashima
Isolation effects of foundation rocking on bridge response
16.00 - 16.30  Coffee break
16.30 - 18.00  Session 2 - Chairman: M.J.N. Priestley
M. Rota*, A. Pecker, D. Bolognini and R. Pinho
Sesimic vulnerability of masonry arch bridge walls
R. Iaccino* and G. Magenes
Probabilistic implementation of a mechanics-based procedure for seismic risk assessment of classes of rc buildings
20.30 - 23.30  ROSE Seminar Dinner

**Tuesday 1st June**

09.00 - 13.30  Session 3 - Chairman: G.M. Calvi
M. Kurata* and M. Nakashima
Effects of column base behaviour on the overall response of steel moment frames
P. Morandi* and G. Magenes
Inconsistencies in codified procedures for seismic design of masonry buildings
10.30 - 11.00  Coffee Break
11.00 - 13.00  Session 4 - Chairman: M.J. Kowalsky
Equivalent damping for DBD applications
P. Miranda*, G.M. Calvi and M.J.N. Priestley
Displacement capacity of RC columns with limited shear resistance
J.D. Pettinga* and M.J.N. Priestley
Dynamic behaviour of RC frames using Direct Displacement Based Design
13.00 - 14.30  Lunch break
14.30 - 16.00  Keynote lecture – M. Collins
The Art of Structural Engineering
16.00 - 17.00  Graduation ceremony
Programme of future activities
Closing speeches
* ROSE School student
ROSE FACULTY

Aiming at a unique diversity of teaching and research training in the field of Earthquake Engineering, the organisation of the ROSE School is based on a relatively short permanence of scholars with extremely high qualification. Indeed, all lecturers at the School are internationally recognised experts in the field, coming from a number of distinguished institutions, listed below:

G.M. Calvi ROSE School, Co-Director
M.J.N. Priestley ROSE School, Co-Director
N. Abrahamson Pacific Gas & Electricity Company, USA
D.P. Abrams University Illinois, Urbana-Champaign, USA
F. Auricchio Università degli Studi di Pavia, Italy
G. Ballio Politecnico di Milano, Italy
K.J. Bathe MIT, Cambridge, USA
J. Benil University of Canterbury, New Zealand
J.J. Bommer Imperial College, London, UK
D.M. Boore US Geological Survey, California, USA
F. Brezza Università degli Studi di Pavia, Italy
F. Carli Università degli Studi di Pavia, Italy
E.C. Carvalho LNEC, Lisbon, Portugal
M.P. Collins University of Toronto, Canada
A. Cornell Stanford University, USA
E. Casenza Università di Napoli “Federico II”, Italy
A. Der Kiureghian University of California at Berkeley, USA
A. Elsharai University Illinois, Urbana-Champaign, USA
E. Faccioli Politecnico di Milano, Italy
M.N. Fardis University of Patras, Greece
G.L. Fenves University of California at Berkeley, USA
A. Filippovt University of California at San Diego, USA
L. Gemmarotta Università degli Studi di Genova, Italy
P. Gasparini Università di Napoli “Federico II”, Italy
T.J.R. Hughes Stanford University, USA
I.M. Idriss University of California at Davis, USA
K. Kawashima Tokyo Institute of Technology, Japan
M.J. Kavaklıoky North Carolina State University, USA
C.G. Lai EUCENTRE, Pavia, Italy
G. Macchi Università degli Studi di Pavia, Italy
G. Magenes Università degli Studi di Pavia, Italy
N. Makris University of Patras, Greece
G. Martin University of Southern California, USA
G. Monti Università di Roma “La Sapienza”, Italy
M. Nakashima University of Kyoto, Japan
T.D. O’Rourke Cornell University, USA
S. Ohtani University of Tokyo, Japan
V. Pane Università di Perugia, Italy
A. Pecker Ecole Nat. des Ponts et Chaussées, France
M.J. Pender University of Auckland, New Zealand
R. Pinho EUCENTRE, Pavia, Italy
A. Pinto ESA, Joint Research Centre, Ispra, Italy
F. Pinto Università di Roma “La Sapienza”, Italy
J. Restrepo University of California at San Diego, USA
F. Sabetta Servizio Sismico Nazionale, Roma, Italy
F. Seible University of California at San Diego, USA
E. Spacone University of Chieti, Italy
D. Veneziano MIT, Cambridge, USA

The University Institute for Advanced Studies (IUSS) was founded in 1997 by the University of Pavia and the Italian Ministry of Universities and Research, to provide advanced training and education at undergraduate and postgraduate levels. Within this framework, the aim of the European School of Advanced Studies in Reduction of Seismic Risk (ROSE) is to prepare professionals and researchers in the field of Earthquake Engineering, to meet the ever-growing worldwide demand for expertise in this specialised subject.