Istituto Universitario
di Studi Superiori di Pavia

Almo Collegio Borromeo
Pavia

Università degli Studi
di Pavia

The Fifth International ROSE School Seminar

Almo Collegio Borromeo, Pavia, Italy
26 - 27 May 2005

ROSE
SCHOOL

European School
for Advanced Studies
in Reduction
of Seismic Risk

• THE ROSE SCHOOL

The European School for 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 students at an advanced stage of their studies, and hence a special forum dedicated to some of the most controversial current issues in earthquake engineering was organised instead.

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 M.J. Nigel Priestley, with the title "Performance-based design of Port Structures".

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 mid 2006. Copies of the JEE Special Issues containing the proceedings of 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 in-depth 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 European Centre for Training and Research in Earthquake Engineering (EUCENTRE, www.eucentre.it), in Pavia, a historical town in the North of Italy (35 km from Milan), full of University tradition and fame.

The Seminar itself will take place at the Collegio Borromeo (www.collegioborromeo.it), a landmark structure in the centre of Pavia, founded in 1561 as a "A Palace for Sapience" by Saint Carlo Borromeo and Pope Pio IV Medici. It is located in Piazza Borromeo, 9.

• POST-SEMINAR ACTIVITIES

As part of its PhD admission procedure, a written/oral examination takes place, once a year, at the ROSE School. Whenever possible, the scheduling of such exam is 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. All ROSE School faculty members are invited to take part.

• PROGRAMME OF THE SEMINAR

Thursday 26th May

10.00-13.00	ROSE School Board Meeting
13.00-14.00	Welcome party and registration
14.00-16.00	Session 1 - Chairman: A. Pecker
	H. Crowley[1] and J.J. Bommer
	The representation of seismic hazard in earthquake loss estimation models
	C.G. Lai, M. Fernandez, C. Pullinger and B. Brizuela[2]
	Probabilistic tsunami hazard assessment of El Salvador
16.00-16.30	Coffee break
16.30-18.00	Session 2 - Chairman: C.G. Lai
	J. Hancock[3], N.A. Abrahamson and J.J. Bommer
	Wavelet adjustment of recorded ground motions to match spectral displacements at multiple damping levels
	T.J.R. Hughes and A. Reali[1]
	Isogeometric analysis in earthquake engineering
20.30-23.30	ROSE Seminar Dinner

Friday 27th May

9.00-10.30	Session 3 - Chairman: M.J. Kowalsky
	K. Beyer[1], M.J.N. Priestley and G.M. Calvi
	Seismic response and design of walls coupled by floor diaphragms
	T.J. Sullivan[1], M.J.N. Priestley and G.M. Calvi
	Seismic design of frame-wall structures
10.30-11.00	Coffee Break
11.00-13.00	Session 4 - Chairman: G. Magenes
	F. Auricchio, R. DesRoches and D. Fugazza[1]
	Seismic performance of steel frames equipped with conventional and shape-memory alloy braces
	S. Peloso[1], A. Pavese and E. Dezza
	Seismic response assessment of RC structures using simplified linear approaches based on regularity factors
13.00-14.30	Lunch break
14.30-16.00	Keynote lecture - M.J.N. Priestley
	Performance-based design of Port Structures
16.00-17.00	Graduation ceremony
	Programme of future activities
	Closing speeches

[1] PhD researcher at ROSE School
[2] MSc student at ROSE School
[3] Marie Curie fellow at ROSE School

• 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 & Electric Co., USA
D.P. Abrams	University of Illinois at Urbana-Champaign, USA
D.L. Anderson	University of British Columbia, Canada
F. Auricchio	Università degli Studi di Pavia, Italy
J. Berrill	University of Canterbury, Christchurch, NZ
J.J. Bommer	Imperial College London, UK
D.M. Boore	U.S. Geological Survey, California, USA
F. Brezzi	Università degli Studi di Pavia, Italy
A. Carr	University of Canterbury, Christchurch, NZ
M.P. Collins	University of Toronto, Canada
A. Der Kiureghian	University of California at Berkeley, USA
A. Elnashai	University of Illinois at Urbana-Champaign,USA
R.E. Englekirk	Englekirk Companies, USA
E. Faccioli	Politecnico di Milano, Italy
M.N. Fardis	University of Patras, Greece
G.L. Fenves	University of California at Berkeley, USA
A. Filiatrault	University of New York at Buffalo, USA
L. Gambarotta	Università degli Studi di Genova, Italy
M.C. Griffith	University of Adelaide, Australia
T.J.R. Hughes	University of Texas at Austin, USA
E. Kausel	MIT, Cambridge, USA
K. Kawashima	Tokyo Institute of Technology, Japan
M.J. Kowalsky	North Carolina State University, USA
C.G. Lai	EUCENTRE, Pavia, Italy
G. Magenes	Università degli Studi di Pavia, Italy
N. Makris	University of Patras, Greece
G. Martin	University of Southern California, USA
E. Miranda	Stanford University, USA
G. Monti	Università di Roma "La Sapienza", Italy
M. Nakashima	University of Kyoto, Japan
T.D. O'Rourke	Cornell University, USA
S. Otani	University of Tokyo, Japan
V. Pane	Università degli Studi di Perugia, Italy
A. Pavese	Università degli Studi di Pavia, Italy
A. Pecker	Ecole Nationale des Ponts et Chaussees, France
M. Pender	University of Auckland, New Zealand
R. Pinho	EUCENTRE, Pavia, Italy
P.E. Pinto	Università di Roma "La Sapienza", Italy
J.H. Prevost	Princeton University, USA
J. Restrepo	University of California at San Diego, USA
G. Rix	Georgia Institute of Technology, Georgia, USA
F. Sabetta	Servizio Sismico Nazionale, Roma, Italy
F. Seible	University of California at San Diego, USA
G. Solari	Università degli Studi di Genova, Italy
E. Spacone	Università degli Studi di Chieti, Italy
M. Stucchi	Istituto Nazionale Geofisica e Vulcanologia, 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 under-graduate and post-graduate 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.

ROSE **SCHOOL**

c/o EUCENTRE
Via Ferrata, 1 - 27100, Pavia, Italy
Tel/Fax: +39.0382.516932
E-mail: rose@unipv.it
Web-site: www.roseschool.it

The European Commission has approved and financed an Erasmus Mundus Masters on Earthquake Engineering and Engineering Seismology (MEEES), coordinated by the ROSE School and featuring also the participation of the University of Grenoble Joseph Fourier (France) and the University of Patras (Greece) as project partners, as well as of Imperial College London (UK), Joint Research Centre (Ispra, Italy) and the Italian Institute for Geophysics and Vulcanology (Italy) as satellite participants. Within the framework of this prestigious Erasmus Mundus programme, which aims to enhance quality in European higher education and to promote intercultural understanding through co-operation with third countries, a relatively large number of scholarships are available for both non-European as well as European students. Interested applicants are invited to visit the MEEES website (www.meees.org) for detailed information and instructions on financial conditions and application procedures.

Grafica Cardano - Pavia Italy