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

Director
G.M. Calvi

Emeritus Director
M.J.N. Priestley

ROSE FACULTY
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S. Akkar
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J. Berrill
K. Beyer
J.J. Bommer
D.M. Boore
R. Boroschek
F. Brezzi
A. Carr
C. Christopoulos
M. Cocco
M.P. Collins
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M. Cubinovski
A. Dazio
A. Der Kiureghian
R. Des Roches
A. Elgamal
A.Y. Elghazouli
A. Elshai
M. Enlak
E. Facciolli
M.N. Fardis
G.L. Ferves
A. Filletraut
P. Franchin
P. Gamba
M.C. Griffith
P. Gulkar
R. Hermann
T.J.R. Hughes
H. Igel
E. Kausel
E. Kavazanjian
K. Kawashima
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REM/WRR FACULTY
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G. Botto
A. Borio di Tigliole
C. Burton
M. Cagnazzolo
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G. Castellano
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F. Dell’Acqua
K. Demeter
R. Eguchi
E. Ferrero
S. Figini
L. Gnamdi
S. Hochrainer-Stigler
G. Holland
L. Lallmatt
F. Laurini
A. Loecci
R. Meichler
A. Mira
A. Monti
Y. Okuyama
A. Parodi
F. Perugia
M. Regester
B. Reynolds
R. Rudari
J. Schneider
D. Stephenson
A. Taramelli
E. Todini
K. Vercub
P.L. Vidale
R. Vitalo
B. Yekeler
B. Youngman
S. Zaffi

IUSS-Pavia is the last step of a long lasting higher education process started on 825 when King Lotharius appointed Pavia, the ancient capital of the Lombard kingdom, as the site for higher education of his kingdom. This process went through the foundation in 1361 by Emperor Charles IV of the Studium Generale later on named University of Pavia. The first Colleges for university students were established in the 15th and 16th centuries. They are now 15 offering, to the almost 2,000 students, a unique opportunity of study and cultural enrichment in a multidisciplinary and multiethnic environment. Through the centuries the University of Pavia became one of the leading institutions in Europe.

IUSS fulfills, since 1997, an advanced teaching and research model successfully implemented by other prestigious institutions in Italy, like Scuola Normale Superiore and Scuola Sant’Anna in Pisa. Due to the completeness of its education and training fields, which allows a strong interdisciplinary approach, the mission of IUSS is to contribute to the growth of a small number of selected students by offering them, at any step of their higher education, qualified programs enhancing their capabilities and knowledge. The Institute is also committed to scientific progress by preparing young researchers and developing scientific research programmes.
THE UME SCHOOL
The postgraduate school in Understanding and Managing Extremes (UME) is a new exciting development of IUSS-Pavia (Institute for Advanced Study of Pavia, www.iusspavia.it), a higher education institution in Italy that offers international advanced postgraduate programmes (Masters and Doctorate). Innovative, internationally planned, open minded, grown on the traditionally fertile soil of the University of Pavia, and based on a system of Colleges unique in Italy, IUSS prepares brilliant individuals to take on the most challenging and demanding public and private positions in contemporary Italy, Europe and the rest of the world. In this framework, the UME School offers graduate programmes geared towards the evaluation of uncertainties, risk mitigation and emergency management. The key objective is to provide a system within which Master and Doctoral candidates can study, understand and deal with extreme events. The UME programmes currently address three main areas:

- Disaster risk assessment, focusing mainly on natural hazards such as earthquakes, hurricanes, fires, landslides and floods (with possible extensions to the topics of climatology, desertification, human-made and technological risks, etc.).
- Extreme situation management, which includes topics of statistics and probability, law, economics, resource management, finance, insurance, sociology, ethics, psychology and medicine.
- Engineering for risk mitigation, which includes topics on engineering to increase the capacity of buildings and infrastructures to withstand the demands from extreme events.

At the UME School, each course is intensively taught in a period of one to four weeks, during which the respective lecturer is able to fully dedicate his/her time exclusively to the scholastic activities at the school, thus ensuring teaching and research training at the highest possible level of quality. All of the above endows the UME School with its fully international nature or for its innovative organisation in education and research training. Currently the UME School runs Master and Doctoral Programmes in Earthquake Engineering and Engineering Seismology (ROSE), Risk and Emergency Management (REM), and the Doctoral Programme in Weather Related Risk (WRR).

The ROSE Programme provides higher-level education in the field of earthquake engineering, offering a number of courses covering advanced mechanics, structural engineering, earthquake engineering, and engineering seismology. In addition to the PhD Degree, the programme offers Master Degrees in earthquake engineering and engineering seismology with (see the Erasmus Mundus paragraph overleaf) and without mobility. The REM Master and PhD Programme aims to train graduates and professionals in the assessment, mitigation and management of extreme events (both before and after they occur), with a primary focus on those arising from natural hazards and a secondary focus on human-made, technological and biomedical risk. The WRR Doctoral Programme covers the domain of risk linked to hydro-meteorological extremes and is run in collaboration with CIVRA Research Foundation located at the Savona campus of the University of Genoa.

INTERNATIONAL ROSE AND UME SCHOOL SEMINARS
As a part of the School’s activities, an International Seminar is organised every year, to provide Master and PhD students with an opportunity to present and discuss their research work to an audience of international experts. In addition to standard presentations on research work carried out within the Programmes of the School, the annual Seminar features 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 and Engineering Seismology. At this year’s event, the Keynote Lecture entitled “Nonlinear site response and its implementation in PSHA” will be delivered by Professor Jonathan P. Stewart from University of California, Los Angeles, USA.

ATTENDING THE EVENT
In addition to UME faculty and students, a maximum of 50 external participants may also be accepted. Therefore, professionals and researchers worldwide are encouraged to take part in the event. A 160€ fee is required from external attendees, to cover the cost of coffee/lunch breaks and seminar dinner. Special financial conditions are in place for external university researchers or students, to whom a fee of 120€ is usually requested. Those who wish to attend the Seminar are kindly invited to fill in and submit a registration form to the UME School. Session fee is €120 covering food of any kind (registration form, accommodation, travelling directions, etc.), please do not hesitate to contact our staff at secretariat@umeschool.it. You may also refer to the UME website (www.umeschool.it) for further information on all UME School activities.

VENUE
The UME 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 (35km from Milan), full of University tradition. The Seminar itself will take place at the Collegio Cardinale Agostino Ribislai (www.carcollege.it), a landmark structure dating back to the second half of the seventeenth century, purposely refurbished to serve as an international hosting facility for postgraduate students and visiting scholars working in the field of natural risk mitigation. It is located in the city centre, via Luigi Porta, 10.

POST-SEMINAR ACTIVITY
On Saturday, May 17, a special visit to the Vajont dam is organised thanks to the collaboration of ENEL and the Vajont Foundation (http://www.fondazionevaljon.it). Interested participants should contact the UME Secretariat for detailed information about the visit. In 1963 a landslide from Monte Toc occurred into the reservoir of Europe’s highest dam and caused a giant flood wave that destroyed Longarone and other villages, claiming over 2,000 lives. The overflow of the dam was due to the geological instability of Monte Toc being ignored. Warning signs and negative appraisals during the early stages of filling were disregarded and the attempt to safely control the landslide into the lake created a 200-metre tall wave that caused massive flooding and destruction of the Pave valley below, wiping completely out several villages.

SEMINAR PROGRAMME
Thursday, 15th May
13.00 - 14.30 Welcome lunch and registration
14.30 - 16.15 Session 1 - Chairman: R. Pinho
D. Bellei1, R. Naschimbene
Experimental and Numerical Assessment of Rubberized Concrete Filled Steel Tube
Y. Jiang, J.M. Castro, R. Monteiro
Modelling of RC Walls - How Reliable are Stain Predictions?
D. Targnini, J. Almeida, K. Beyer
A Parametric Investigation into the Seismic Behaviour of Window Glazing Systems
K. Sassi, A. Filatocruz, T. Sullivan
16.15 - 16.45 Coffee Break
16.45 - 18.00 Session 2 - Chairman: P. Labbé
Development and Validation of an Integrated Probabilistic Risk Assessment for Turbines
S. Ozacar1, H. Crawley, V. Silva
Accounting for Joint Typology in the Displacement-Based Design of Steel Moment-Resisting Frames Structures
A.R. Robolo Abaffay, T. Sullivan, G. Della Corte
Displacement-Based Parametric Study on the Seismic Response of Gravity Earth Retaining Walls
M.G. Deyanova2, C.G. Lai, M. Martinelli
19.30 - 23.30 Welcome Dinner
Friday, 16th May
09.00 - 11.00 Session 3 - Chairman: P. Cotton
Comparative Numerical Dynamic Analyses of Earthquake Induced Landslides
D. Tonak1, E. Fasciole, A. Calliero
Seismic Soil Amplification of Cohesionsloess Soils and Comparison with GMPE and Code Values
M. Morosi, P. Bazzurro, F. Pelli
Effects on Building Portfolio Losses of Modelling Epistemic Uncertainty in Seismic Hazard Estimates
S.R. Kotha1, P. Bazzurro, M. Pagani
Does VSHPA Improve the Accuracy of PBEES-based Building Response Estimates?
M. Kohrang1, P. Bazzurro
11.00 - 11.30 Coffee Break
11.30 - 13.00 Session 4 - Chairman: K. Beyer
Nonlinear Macroelement Modelling of Experimental Tests on Masonry Buildings Specimens with Rigid Diaphragms
M. Mandrola1, A. Galasso, A. Penna, G. Magenes
Seismic Assessment of Existing Masonry Buildings: Accounting for Limited Structural Knowledge by Bayesian Updating Techniques
S. Braccio1, M. Rato, A. Penna, G. Magenes
Experimental and Analytical Assessment of the 3D Response of Concave Surface Sliders (CSS) Devices
M. Furinghetti, A. Pavese, C. Casarotti
13.00 - 14.30 Lunch Break
14.30 - 16.30 Session 5 - Chairman: G.M. Calvi
Keynote lecture - Nonlinear site response and its implementation in PSHA
J. Stewart
Overview of 2013-2014 PaRC Activities
Graduation Ceremony
ROSE Prize 2014
1 PhD Student, MSc Student
2 MSc Student, PhD Student