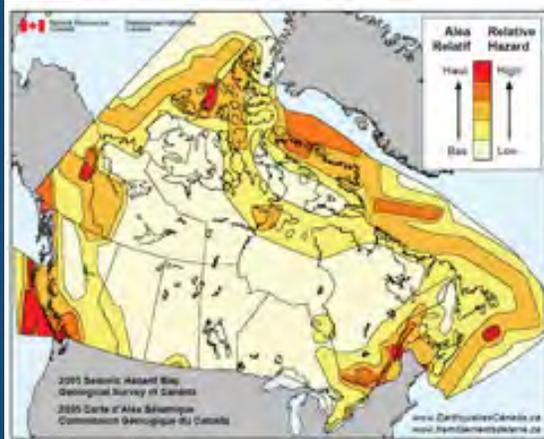


# Assessment and Reduction of Risk Caused by Natural Catastrophes

Presented by **G. Michele Calvi**, Professor of Structural Design and **Paolo Bazzurro**, Professor of Hazard and Risk Assessment, both at the University Institute for Superior Studies (IUSS) in Pavia, Italy, this seminar presents the fundamentals of risk and hazard assessment, tools to evaluate risks for specific structure types as well as strategies and measures for risk reduction.



Over the last few decades, natural catastrophes have caused thousands of deaths and billions of dollars of losses each year. It is apparent that it is necessary to invest in preventative risk mitigation strategies.

However, due to the enormous difference between available resources and needs, decision makers face a difficult dilemma about where and how to invest.

It is well known that risk is a combination of hazard, vulnerability and exposure. Hence, assessing risk for different natural events requires knowledge of many disciplines such as earth sciences, seismology, hydrology, structural and hydraulic engineering, meteorology, probability and statistics, and economics.

This short course will provide the basics necessary to understand how risk assessment and risk mitigation are addressed in the industry.

The broad scope of this course makes it of potential interest to researchers and professionals working in the financial sector, in the insurance industry, in engineering and in risk modeling companies.

More specifically it could profit structural engineers, planners, insurers, brokers, risk modelers, business administrators, and generally any professional interested in developing a basic understanding of risk induced by natural disasters to people and the built environment.

## Registration

Register online at University of Toronto's event registration system at: <http://my.alumni.utoronto.ca/crci-arrcnc>

### Seminar Fee (incl. HST):

Early Bird Registration Fee: \$600 (before May 20, 2014)  
Registration Fee: \$750 (after May 20, 2014)

Registration for all attendees includes course notes and a certificate of participation upon completion of the seminar.

For further details please contact Professor Constantin Christopoulos, Email: [c.christopoulos@utoronto.ca](mailto:c.christopoulos@utoronto.ca) or Dr. Silke Willibald (CRCI Executive Assistant), Email: [crci@utoronto.ca](mailto:crci@utoronto.ca), Web: [www.crci.utoronto.ca](http://www.crci.utoronto.ca)



June 20 and 21, 2014

## Seminar Program

DATE	TIME	TOPIC
June 20	9.30am to 12.30pm	An Overview of Catastrophe Risk
	1.30pm to 3.30pm	Earthquake and Cyclone Risk for Portfolios of Assets
	4.00pm to 6.00pm	Evaluation of Risk for Specific Buildings
June 21	9.30am to 12.30pm	Strategies and Measures for Risk Reduction
	1.30pm to 3.30pm	Seismic Risk for Nuclear Power Plants
	4.00pm to 6.00pm	Seismic Design Issues for Nuclear Power Plants

All lectures will be held at the University of Toronto, Galbraith Building, Room 303, located at 35 St. George Street, Toronto, Ontario, M5S 1A4.

## Expert Speakers

**Dr. G. Michele Calvi** is a Professor of Structural Design and Director of the Centre for Research and Graduate Studies in Earthquake Engineering and Engineering Seismology at the University Institute for Advanced Studies (IUSS) in Pavia Italy. He received a Master of Science from the University of California, Berkeley, a PhD from the Politecnico di Milano and an Honorary Doctorate from the University of Cujo, Mendoza, Argentina.

Professor Calvi is the founder and president of the Eucentre Foundation and founder and director of the School in Understanding and Managing the Extremes (today UME, started as the ROSE School); he is also member of the Board of Directors of the GEM Foundation and one of the Directors of the International Association of Earthquake Engineering.

He is the author of more than 300 publications and of two major books: *Seismic design and retrofit of bridges* (with M.J.N. Priestley and F. Seible, 1996) and *Displacement-Based Seismic Design of Structures* (with M.J.N. Priestley and M.J. Kowalsky, 2007).

He has been designer, consultant or checker for hundreds of structural projects, among which are the Rion-Antirion cable stayed bridge (2883 m, in Greece), the Bolu viaduct (119 spans, in Turkey) and the new housing system after L'Aquila earthquake (2009), with 185 buildings seismically isolated with more than 7,000 devices, completed in about six months.



**Dr. Paolo Bazzurro** has more than 25 years of professional experience in Europe and the United States dealing with risk assessment of monetary losses for corporate clients, insurance companies, reinsurance companies and brokers, sovereign and local governments and other public institutions. Bazzurro is Professor of Hazard and Risk Assessment at the University Institute for Superior Studies (IUSS) Pavia and Head of the Hazard and Risk Assessment Section at the European Centre for Training and Research in Earthquake Engineering (EUCENTRE) Foundation in Pavia. He worked for 11 years as a Principal Engineer and Director of Risk Engineering and Analysis of AIR Worldwide where he led the risk assessment work and contributed to the design of the final risk mitigation strategies in ground-breaking projects such as CatMex and MultiCat, which supported the issuance of insured-linked securities and more traditional insurance coverage for the Government of Mexico. He also led the risk assessment work for the Pacific Catastrophe Risk Assessment and Financing Initiative in the Pacific Region for the World Bank, which brought to fruition the first insurance facility in that region of the world. He is now a consultant for the World Bank and Deputy Chair of the Scientific Board of the Global Earthquake Model (GEM). Dr. Bazzurro is author of more than 100 papers and reports, some of which broke new ground on several aspects of probabilistic seismic hazard and risk assessment.

