

PRE-CONFERENCE WORKSHOP

# Seismic Engineering: Issues in Displacement Based Design and Assessment

**DATES** MON., SEPT. 18, 2017 • 1:30PM - 5:30PM  
TUE., SEPT. 19, 2017 • 8:00AM - 6:00PM

**VENUE** THE WESTIN BAYSHORE,  
1601 BAYSHORE DRIVE, VANCOUVER, BC



*Pre- and post-earthquake damage to a building.  
Photo: Massimiliano Stucchi*

**WORKSHOP DESCRIPTION**

The course presents the fundamentals and application of seismic design and assessment based on damage-controlled limit-states.

Problems with conventional force-based seismic design will be discussed, and the superior attributes of Direct Displacement-Based Seismic Design established.

The fundamentals will be applied to a range of structural types and problems, not commonly addressed in standard courses on seismic design, including bridges, seismically isolated structures and non-structural components.

A strong structures background and a basic understanding of conventional seismic design procedures are prerequisites for the course.

The course will be illustrated discussing a few practical examples of design / assessment and a couple of “homework assignments” will be proposed, though the time constraints will not allow a proper development and correction.

Whenever possible, the course will be closely referenced to a design/research text book on displacement-based seismic design: *Displacement-Based Seismic Design of Structures* by Priestley, Calvi and Kowalsky, IUSS Press, 2007, a copy of which is very useful for the course (Available at extra cost through on-line stores including Amazon, IUSS Press, etc).

The problems proposed may need to apply inelastic time-history analyses, which may be performed using programs provided as part of the text book.

**REGISTRATION FEES**

This course is being offered by the SEABC and enrolment is also offered to participants of the 2017 IABSE Symposium at preferred rates:

	<b>Advance On-Line Registration (by Sept. 1, 2017)</b>	<b>Late Price / In-Person (after Sept. 1, 2017)</b>
<b>2017 IABSE Symposium Delegate or SEABC Member</b>	\$ 600	\$ 700
<b>Non-Member</b>	\$ 650	\$ 750
<b>Student*</b>	\$ 400	\$ 500

\* Full-time student with valid photo ID from their educational institution.

The registration fee includes:

- Access to pre-workshop reading materials
- Printed course notes and handouts during workshop
- Coffee breaks: Monday afternoon, Tuesday morning and afternoon
- Lunch: on Tuesday only

All registration fees are in Canadian Dollars (CAD) and are subject to prevailing government taxes at the time of the transaction, including a Goods and Services Tax (GST) of 5%.

Cancellation requests received in writing prior to Sept. 1, 2017 are subject to a \$200 processing fee. All fees are non-refundable after Sept. 1, 2017.

Non-member price includes complimentary membership in SEABC until Dec. 31, 2017.

See registration website for additional Terms and Conditions.

**INSTRUCTORS:**



**Gian Michele Calvi** is Professor at Pavia, Italy, and Adjunct Professor at the North Carolina State University.

He received a Master of Science from the University of California, Berkeley, a PhD from the Politecnico di Milano and a Honorary Doctorate from the University of Cujo, Mendoza, Argentina.

He has been the founder of the Eucentre Foundation and of the ROSE School (which originated the UME School); he has been a member of the Board of Directors of the GEM Foundation and is one of the Directors of the International Association of Earthquake Engineering.

He is author of hundreds of 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, including 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.

He is associate editor of the *Journal of Earthquake Engineering* (Taylor and Francis) and editor of *Progettazione Sismica* (IUSS Press, Pavia), a journal in Italian addressed to practitioners.

He has been invited as keynote speaker in tens of conferences, including two World and three European Conferences on Earthquake Engineering.

He has always been active in conceptual innovation in seismic design, focusing on masonry in his early days, and on bridges, displacement-based design and seismic isolation from the 1990's.



**André Filiatrault, Ph.D., P.Eng.** is a Professor in the Department of Civil, Structural and Environmental Engineering at the State University of New York at Buffalo in Buffalo, NY, USA and a Professor of Structural Engineering at the School for Advanced Studies of Pavia (IUSS), Italy. He received his master's (1985) and Ph.D. (1988) degrees in civil engineering from the University of British Columbia after

obtaining his bachelor's degree in civil engineering from Université de Sherbrooke in 1983.

After a two-year stint as an assistant professor at the University of British Columbia, he joined the Department of Civil Engineering at École Polytechnique, part of Université de Montréal, where he became a full professor in 1997. Professor Filiatrault joined the faculty at the University of California, San Diego in 1998, where he was a professor of structural engineering until 2003. From 2003 to 2007, he served as the Deputy Director of the Multidisciplinary Center for Earthquake Engineering Research (MCEER). Professor Filiatrault also served as the Director of MCEER from 2008 to 2011. He is the current founding president of the International Association for the Seismic Performance Of Non-Structural-Elements (SPONSE). His research over the last 29 years has focused on the seismic testing, analysis and design of civil engineering structures and non-structural building components.

The professional achievements resulting from his research and teaching activities include four textbooks, more than 300 peer-reviewed scientific publications, the 1990 Sir Casimir Stanislaus Gzowski Medal from the Canadian Society for Civil Engineering, the 2002 Moisseiff Award from the American Society of Civil Engineers and the 2008 Outstanding Researcher/Scholar Award from the Research Foundation of the State University of New York.

**More Information:** [www.iabse2017.org](http://www.iabse2017.org) | [info@iabse2017.org](mailto:info@iabse2017.org)

