

**American Society of Civil Engineers  
Structural Engineering Institute  
Technical Committee on Optimal Structural Design**

**Meeting Minutes - Unapproved  
Westin Hotel – Long Beach, CA  
Alamitos Room  
Thursday, May 17, 2007  
1:00 – 3:00 pm**

**Members in Attendance**

Chris Foley (Chair, Ctrl. Mem.)	Marquette University	chris.foley@marquette.edu
Shahram Pezeshk (Past-Chair, Ctrl. Mem.)	University of Memphis	spezesk@memphis.edu
Keith Mueller (Ctrl. Mem.)	Teng and Associates	muellerkm@teng.com
Asghar Bhatti	University of Iowa	mabhatti@uiowa.edu
Dan Frangopol	Lehigh University	dan.frangopol@lehigh.edu
Masoud Sanayei	Tufts University	masoud.sanayei@tufts.edu
Michael Gustafson	Tekla	michael.gustafson@tekla.com
Michael Scott	Oregon State University	michael.scott@oregonstate.edu
John Peronto	Thornton-Tomasetti	JPeronto@ThorntonTomasetti.com
Arzhang Alimoradi	John Martin & Associates	arzhang@johnmartin.com

**Visitors (and Friends)**

Don Grierson (TAC Chair)	University of Waterloo	grierson@uwaterloo.edu
--------------------------	------------------------	------------------------

1. The meeting was called to order at 1:10 pm.
2. Introductions (Members, Friends, Guests)
3. Approval of Minutes from 2006 Meeting in St. Louis

Professor Grierson pointed out the dual listing of Professor Frangopol as a friend and member. The minutes will be corrected to indicate that Professor Frangopol is a member of the committee. The minutes were approved as amended. Approved minutes for the 2006 meeting are included with these minutes.

4. Review and Update of Membership Roster

The current roster for the committee was distributed via email to the members prior to the meeting and was reviewed. Prof. Otani emailed the chair prior to the meeting and indicated that he was not a member of the committee and desires removal from the roster. He has been removed from the committee roster. An updated roster is enclosed with these minutes.

The committee discussed the election of Dr. Arzhang Alimoradi as Secretary of the committee. It was recommended that Dr. Alimoradi become Secretary and that he also becomes a control member of the committee.

The number of control members for the committee was discussed. The committee currently has 4 control members (Foley, Pezeshk, Swan, and Mueller). Increasing this to 6 individuals was discussed. Prof. Pezeshk will be removed as control member of the committee. The control members for the coming year are: Alimoradi (Secretary), Foley (Chair), Mueller, and Swan (AE).

5. Associate Editors Report

The time period for which the associate editor report is being filed is: June 1st 2006 through May 17, 2007. The OSD AE handled 14 manuscripts during this time period:

- 4 manuscripts were declined outright;
- 4 manuscripts required revisions with re-review;
  - of these, three have not yet been re-submitted
  - of these, one was resubmitted and accepted for publication
- 4 were recommended for acceptance on the first submission
- 2 are currently in the review process.

Therefore, 9 manuscripts have completed the review process (4 were rejected and 5 accepted). 2 are still in review, and 3 are awaiting resubmission for re-review.

The OSD committee wishes to express sincere gratitude to Prof. Swan for his excellent work during the past year handling manuscripts for the Journal. Performing the duties of AE is time consuming and Prof. Swan has done a terrific job.

6. Report on Sessions at the 2007 Structures Congress in Long Beach.

The OSD committee did not propose any sessions at the 2007 congress.

The committee discussed anomalies encountered with assigning moderators to sessions; and the congress submission process. It appears that sessions proposed for the congress had moderators assigned by the local organizing committee and there was concern that record of the committee organizing and developing the session would be lost if this practice continued. In fact, it was very, very difficult to track which committee or individual organized a session at the congress by looking at the program. The Committee recommended that committees and individuals proposing and organizing sessions are properly tracked so that accurate product tracking sheets can be maintained.

7. OSD Committee Website

The OSD committee website was discussed. No action with regard to its maintenance was taken at this point. The chair (Foley) will work with Prof. Scott to develop a Wiki site for the committee. This Wiki would replace the committee's web site and would facilitate more effective editing and updating by all committee members.

8. Review of OSD Product Tracking Sheet

The committee product tracking sheet (Dec 2006) was distributed, reviewed and discussed by the committee. The Dec. 2006 tracking sheet is enclosed with these minutes. The chair stressed the importance for members of the committee to keep him informed of their activities so that accurate product tracking sheets can be generated.

The committee discussed the monograph or special publication on *Performance-Based Optimization* that was begun during the last year. Professors Foley and Pezeshk will discuss the future of this effort and will update the committee at the 2008 congress.

9. 2008 Structures Congress and 18<sup>th</sup> Analysis and Computation Specialty Conference in Vancouver, Canada.

The 2008 Structures Congress and 18<sup>th</sup> A&C Specialty Conference were discussed. The chair distributed the call for papers (enclosed with these minutes) for the 2008 congress and the special issue (or portion) of the *Journal of Structural Engineering* devoted to papers based upon presentations to be made at the congress was discussed.

The committee discussed the theme areas for the conference and brainstormed session topics. This discussion resulted in the committee deciding to propose four sessions for the 2008 Congress and 18<sup>th</sup> A&C specialty conference. The tentative titles for these sessions are listed below:

- Structural Optimization in the Design Office – Theory and Implementation
- Application of Structural Optimization Methodologies in OpenSEES
- Merging Structural Optimization Algorithms and Commercial Software
- Seismic Performance Optimization – Minimizing Annual Loss and Maximizing Performance Reliability

Committee members were informed of the June 15, 2007 session submission deadline and are working toward putting together these sessions by that time.

#### 10. Brief Review of European Conferences

Two European conferences of interest to the committee members were discussed. The Chair distributed information on the following conferences to the committee (enclosed):

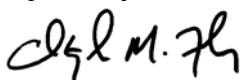
- COMPDYN 2007 Conference in Crete, June 2007
- 8<sup>th</sup> World Congress on Computational Mechanics (WCCM8) in Venice, June 2008
- First International Symposium on Life-Cycle Civil Engineering (IALCCE 08) in Varenna, Italy

Several committee members have planning roles in these events and brochures, calls for papers, and mini-symposia announcements describing these activities are included with these minutes. Committee member activities in conferences outside North America were encouraged to foster world-wide collaborative efforts.

#### 11. General Items for Discussion

A discussion of special issues in the *Journal of Bridge Engineering* or the *Journal of Computing in Civil Engineering* related to structural optimization was initiated by Prof. Scott. The committee recognizes that these ASCE journals are also likely outlets for committee products and submissions will be investigated.

Respectively Submitted,



Christopher M. Foley, Ph.D., P.E.  
Chair – Technical Committee on Optimal Structural Design  
May 21, 2007

Encl: Approved Minutes of 2006 OSD Meeting in St. Louis  
Updated 2007-08 OSD Committee Roster  
OSD Product Tracking Sheet – Dec. 2006  
Call for Papers – 2008 Structures Congress  
Miscellaneous European Conference Calls, Mini-Symposia Calls

**American Society of Civil Engineers  
Structural Engineering Institute  
Technical Committee on Optimal Structural Design**

**Un-Approved Meeting Minutes  
2006 ASCE-SEI Structures Congress  
Adams Mark Hotel – St. Louis, MO**

**Saturday, May 20, 2006**

**Members in Attendance**

Shahram Pezeshk (Chair)	University of Memphis	<a href="mailto:spezesk@memphis.edu">spezesk@memphis.edu</a>
Chris Foley (Secretary)	Marquette University	<a href="mailto:chris.foley@marquette.edu">chris.foley@marquette.edu</a>
Keith Mueller	Teng and Associates	<a href="mailto:muellerkm@teng.com">muellerkm@teng.com</a>
Asghar Bhatti	University of Iowa	<a href="mailto:mabhatti@uiowa.edu">mabhatti@uiowa.edu</a>
Colby C. Swan (AE)	University of Iowa	<a href="mailto:colby-swan@uiowa.edu">colby-swan@uiowa.edu</a>
Anne Raich	Lafayette College	<a href="mailto:raicha@lafayette.edu">raicha@lafayette.edu</a>
Dan Frangopol	Lehigh University	<a href="mailto:dan.frangopol@lehigh.edu">dan.frangopol@lehigh.edu</a>

**Visitors (and Friends)**

Don Grierson (friend)	Chair: TAC-Analysis and Computation	<a href="mailto:grierson@uwaterloo.edu">grierson@uwaterloo.edu</a>
Jamie Guest	Johns Hopkins University	<a href="mailto:jkguest@jhu.edu">jkguest@jhu.edu</a>
Masoud Sanayei	Tufts University	<a href="mailto:masoud.sanayei@tufts.edu">masoud.sanayei@tufts.edu</a>

The meeting was called to order at 4:10 PM by the Chair (Prof. Pezeshk).

1. Members and guests provided a short introduction to the Committee
2. The minutes of the meeting in New York, NY at the 2005 Congress were approved without changes or amendments.
3. Business arising from the minutes

There was no new business resulting from the previous minutes.

4. Review and update of committee membership roster/duties

Friends of the committee and potential new members were instructed to use ASCE's website to apply for committee membership.

The terms of committee membership were reviewed by the Chair.

A recommendation of Chris Foley (Marquette University) taking over as chair of the committee was discussed. Chair Pezeshk relayed to other members of the committee that if they are interested in performing the duties of Secretary, that they should email Professor Pezeshk informing him of their interest in taking the position. Professor Pezeshk also discussed the role of control members and requested that members interested in becoming a control member of the committee contact him to formally express their interest.

5. Associate Editors Report

Prof. Swan reviewed discussions that occurred at the Associate Editor's meeting. The present impact factor for the Journal is 0.77. The acceptance rate of manuscripts is approximately 31%. The current mean time from review to final publication is approximately 21 months. It was reported that the impact factor of the Journal is improved when manuscripts cite works that are in the Journal and are recent (*e.g.* two years old). The time from acceptance to publication was approximately 7 months. The committee discussed methods that may be used to improve time to publication.

Prof. Swan received 7 manuscripts since he took over as AE. Three papers have been processed (2 accepted and 1 declined) and four are under review.

Prof. Foley resigned from his 1-year extension as Associate Editor early in 2005 and Professor Swan graciously agreed to take over the AE duties. Prof. Foley initially was handling 9 manuscripts during the period beginning May 2005. Four (4) of these manuscripts were new submissions and five (5) were revised manuscript submissions. One of the revised manuscripts was accepted for publication and the remaining 4 are pending. The new submissions are under review as well. Prof. Foley's manuscripts have been taken over by the editorial board of the journal and Prof. Swan has been receiving submissions since early this year.

It was suggested that reviewers that perform very well during the year should be considered for "Awards of Appreciation" issued by ASCE. It was suggested that the AE pass along names of reviewers to the OSD Chair for award consideration.

6. Report on sessions being sponsored at the 2006 Structures Congress in St. Louis.

Two sessions were proposed:

*"Structural Optimization Using MS Excel for Practicing Engineers* by Keith Mueller.

Approximately 40 people attended the session and it was well received.

*"Life-Cycle Design and Management of Infrastructure* by A. Estes. Approximately 12-15 people attended the session.

The committee discussed the idea that papers recommended for potential inclusion in the special issue of the Journal from the A&C track at the Congress should be withdrawn if the authors did not attend the conference and present their paper.

7. Sessions Proposed at the 2007 Structures Congress at Long Beach

An email from John Wallace of UCLA was distributed to the committee and discussed. Don Grierson mentioned that the "Research Frontiers Track" at the 2007 Congress was intended to be "research-focused" papers. Papers in this track will be peer-reviewed and there will be a full-paper submission associated with the presentations.

The themes for the 2007 Congress were discussed by the committee.

It was mentioned that a significant percentage of papers were to be devoted to "practical" engineering subjects. Papers outside the "Research Frontiers Track", at this point, appear to be "invited abstracts" without full-papers.

Concerns arose from the 2006 Congress that some papers in sessions were not presented at the Congress. Masoud Sanayei relayed procedures he successfully employed for contacting authors/presenters prior the Congress to ensure that an individual will attend the Congress and present their paper. Keith Mueller used a similar process to that used by Masoud Sanayei at the 2006 Congress. PPT presentations of reviewers were obtained ahead of time by Keith Mueller.

Session proposals for the 2007 Congress were discussed by the Committee. Deadlines for session and abstract submissions to the ASCE web-site are June 15, 2006. Abstract proposals should have a description of the session and should identify at least 4 papers for presentation. Session decisions will be made by August 1, 2006.

Deadlines for the “Research Frontiers Track” were discussed. The attached email from John Wallace issued to ASCE committee chairs was discussed by the committee.

If sessions or abstracts are proposed by committee members, they are urged to send the Chair advanced copies of their proposals prior to uploading to the ASCE web-site. This will help ensure that the Chair’s tracking sheets are complete and accurate.

#### 8. Future Directions of the Optimal Structural Design Committee

The committee discussed the manuscripts that were to be included in a special issue of the Journal or a special publication that have been received to date. The “Performance-Based Optimization” monograph or special issue put together by the Committee was discussed. The form of this contribution to the literature was discussed (*e.g.* special issue of the Journal, an ASCE Manual of Practice, or an ASCE Monograph). The chapter submissions that have been received by the Committee to date were distributed to the Committee for review.

The committee members present at the meeting felt that a special issue of the Journal may be the best route to take with the manuscripts. In this vein, the committee discussed organizing tracks at the 2007 Congress around the manuscripts received whereupon they then could be organized into a special issue of the Journal. The final decision in this regard will be made by Editors Pezeshk and Foley.

The committee felt that an internal review process was sufficient for the special issue or monograph. The following committee members volunteered to review manuscripts currently in hand.

Don Grierson	8
Colby Swan	6, 12
Chris Foley	2, 3
Keith Mueller	10
Asghar Bhatti	1, 6
Shahram Pezeshk	5
Anne Raich	9
Jaime Guest	7, 12

Shahram Pezeshk will distribute manuscripts to the committee via a password-protected web-site. The attached list of the most up-to-date manuscript titles will be distributed to the Committee for review and volunteers to review manuscripts were requested.

The tutorial session proposal was discussed.

The CIS2 intermediate file format was briefly discussed. Shahram Pezeshk and Chris Foley relayed their experiences related to using commercial software for optimization. Their investigations have determined that CIS2 and associated commercial software is not amenable to optimization research activities at the present time.

The committee discussed development of a short-course on optimization. Asghar Bhatti relayed his interest in developing a short-course in this area to the committee and will take the lead in its development.


The Special Projects funding program was discussed by the committee. The committee discussed requesting funds to put together the special issue or short course.

9. Other Business

An idea to have the 18<sup>th</sup> Analysis and Computation Congress in Vancouver devoted to practice-oriented sessions was discussed. Direct invitation of practitioners to submit papers for consideration at the 18th A&C Congress was discussed.

10. The meeting was adjourned at 6:00 pm and the Committee assembled for a St. Louis dinner.

Respectively Submitted,



Christopher M. Foley, Ph.D., P.E.  
Secretary – Technical Committee on Optimal Structural Design  
June 2, 2006

Encl.

Title	First Name	Last Name	Email Address	Company Name	State	Start Term	End Term	Control Group	
<b>Secretary</b>	Arzhang	Alimoradi	arzhang@johnmartin.com	John Martin Associates, Inc.	CA	20051000	20110900	4	
	Asghar	Bhatti	mabhatti@uiowa.edu	Univ of Iowa	IA	20061000	20120900		
	Brenner	Brian	brian.brenner@tufts.edu	Tufts University	MA	20031000	20090900		
	Scott	Burns	asce@scottburns.us	Univ Of Illinois	IL	20031000	20090900		
<b>Chair</b>	Christopher	Foley	chris.foley@marquette.edu	Marquette University	WI	20061000	20090900	4	
	Dan	Frangopol	dan.frangopol@lehigh.edu	Lehigh Univ	PA	20031000	20090900		
	Yanglin	Gong	yanglin.gong@lakeheadu.ca	Lakehead University	ON	20041000	20100900		
	James	Guest	jkguest@jhu.edu	Johns Hopkins Univ	MD	20061000	20120900		
	Michael	Gustafson	michael.gustafson@tekla.com	TEKLA	GA	20061000	20130900		
	Vlasis	Koumoussis	vkoum@central.ntua.gr	Technical University of Athens	-	20021000	20080900		
	Kang	Lee	kslnist@chonnam.ac.kr	Chonnam National University	-	20031000	20090900		
	Qing	Liang	liang@usq.edu.au	The University of Southern Queensland	-	20031000	20090900		
	Keith	Mueller	muellerkm@teng.com	Teng and Associates	IL	20021000	20080900		4
	John	Peronto	JPeronto@ThorntonTomasetti.com	Thornton Tomasetti - Chicago	IL	20061000	20130900		
<b>Past-Chair</b>	Shahram	Pezeshk	spezeshk@memphis.edu	Univ Of Memphis	TN	20061000	20090900		
	Anne	Raich	raicha@lafayette.edu	Lafayette College	TX	20041000	20100900		
	Masoud	Sayanei	masoud.sayanei@tufts.edu	Tufts Univ	MA	20061000	20120900		
	Benjamin	Schafer	schafer@jhu.edu	Johns Hopkins Univ	MD	20041000	20100900		
<b>AE-JSE</b>	Michael	Scott	michael.scott@oregonstate.edu	Oregon State University	OR	20061000	20120900	4	
	Colby	Swan	colby-swan@uiowa.edu	Univ Of Iowa	IA	20061000	20120900		



# Analysis & Computation Product Tracking System Updated December 12, 2006

COMMITTEE NAME	PURPOSE STATEMENT	PUBLICATIONS	SESSIONS	JOURNAL ARTICLES	OTHER	NEW PROJECTS UNDER DISCUSSION
<p><b>OPTIMAL STRUCTURAL DESIGN</b> Christopher M. Foley chris.foley@marquette.edu 414-288-5741</p>	<p>Further the development of the state-of-the-art of optimal design of structures. The committee shall encourage and disseminate new developments in practical applications to structural design, and new computation techniques, methodology and algorithms.</p>	<p>The committee is considering a manuscript on “<i>Performance Based Optimal Design</i>” Manuscript chapters have been submitted and the committee will discuss avenues for publication at the 2007 Long Beach meeting.</p>	<p><b>Structures Congress 2006 17<sup>th</sup> A&amp;C Specialty Conference:</b> 2 sessions were organized: 1) Life-Cycle Design and Management of Infrastructure (approx. 15 attendees) 2) Structural Design and Optimization for Practicing Engineers (approx. 40 attendees)</p> <p><b>Structures Congress 2007</b> At the time the product tracking sheet was revised, it was unclear if sessions were proposed.</p>	<p><b>Journal of Structural Engineering:</b> Foley, C.M., Pezeshk, S., Alimoradi, A., (2006) “Probabilistic Performance-Based Optimal Design of Steel Moment-Resisting Frames: Part I – Formulation” (at press). Alimoradi, A., Pezeshk, S., Foley, C.M., (2006) “Probabilistic Performance-Based Optimal Design of Steel Moment-Resisting Frames: Part II – Applications” (at press).</p> <p><b>Earthquake Spectra:</b> Rojas, H., Pezeshk, S., Foley, C.M. (2006) “Performance-Based Optimization Considering Both Structural and Non-Structural Damage” (under review).</p>	<p><b>Book Chapters:</b> Foley, C.M. (2006) “Structural Optimization Using Evolutionary Computation” in <i>Optimization of Structural and Mechanical Systems</i>, Edited by J.S. Arora, World Scientific (at press). Alimoradi, A., Pezeshk, S., Foley, C.M. (2006) “Evolutionary Seismic Design for Optimal Performance”, <i>Intelligent Computational Paradigms in Earthquake Engineering</i>, Lagaros, N.D. and Tsompanakis, Y. Editors, Idea Group Publishing, Hershey, PA (at press).</p> <p><b>Conferences and Symposia:</b> <i>Innovative Approaches for Seismic Design Using Nonlinear Analysis Methods</i>, COMPDYN 2007 June 13-15, 2007 Rethymno Crete, Greece. Foley of the OSD Committee with Fragiadakis and Tsompanakis.</p>	<p>Develop Short Courses on Optimal Structural Design (will continue discussion at the 2007 Structures Congress meeting)</p>

## FOR ADDITIONAL INFORMATION...

### On Exhibiting:

To put your company into a booth in our bustling Exhibit Hall with leading suppliers to the structural engineering and construction industries, please contact Sean Scully at ASCE Sales: 703-295-6154 or [sscully@asce.org](mailto:sscully@asce.org).

### On Sponsorship:

To add your company's name to our illustrious list of 2008 STRUCTURES CONGRESS sponsors, please contact Marcia Saumweber at the ASCE Foundation: 703-295-6347 or [msaumweber@asce.org](mailto:msaumweber@asce.org).



### About the Congress:

To keep up-to-date on 2008 STRUCTURES CONGRESS developments, visit [www.structurescongress.org](http://www.structurescongress.org).

### About the Structural Engineering Institute:

To learn more about upcoming SEI news and events, visit [www.SEInstitute.org](http://www.SEInstitute.org).

## HOW TO SUBMIT SESSION REQUESTS AND/OR PAPER ABSTRACTS TO PARTICIPATE

You are invited to submit session requests and/or papers abstracts for the 2008 STRUCTURES CONGRESS. Proposals should focus on topics consistent with the list published in this announcement.

Session requests and paper abstracts should be no more than two printed pages per abstract and must be submitted to the SEI Website at [www.SEInstitute.org](http://www.SEInstitute.org)

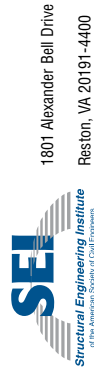
**SESSION REQUESTS** should include the session title and abstract, name of proposed session chair and contact information (including email address), and name of organizing committee (if applicable), as well as each author's name and contact information (including email address), and each paper's title and abstract. Please indicate your topic area from the list of topics published in this announcement.

**Sessions organized by committees of SEI/ASCE are strongly encouraged.**

**PAPER ABSTRACTS** must include each author's full name, credentials, affiliation, location, and contact information (including email address). Any special comments, such as session, track, or topic for which the paper is best suited, should be written at the bottom of the abstract page.

### EXPENSES

All expenses related to preparing and presenting the papers, including camera-ready manuscripts and illustrations, are the responsibility of the authors and co-authors.



Non-Profit Org.  
U.S. Postage PAID  
Merrifield, VA  
Permit #2446

You're invited to take part!  
Submit your session and paper abstract today!



April 24-26, 2008

The Hyatt Regency Vancouver  
Vancouver, British Columbia

[www.SEInstitute.org](http://www.SEInstitute.org)

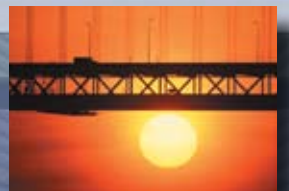
## ANNOUNCEMENT

# Crossing Borders 2008 Structures Congress

April 24-26, 2008 Vancouver

THE HYATT REGENCY VANCOUVER  
VANCOUVER, BRITISH COLUMBIA

## CALL FOR SESSIONS & PAPERS



Co-Sponsoring Organizations:

## FORMAT

Varied sessions are planned for the **2008 STRUCTURES CONGRESS** targeted toward getting information to the practicing engineer.

These sessions will be included in:

- **5 tracks covering practical design and focused structural engineering, research for practitioners, and codes and standards**
- **2 tracks on business and international engineering**
- **2 specialty tracks devoted to analysis and computation**
- **1 track presenting state-of-the-art research**

Presentations will be selected from an open call and by invitation. Presenters must provide a maximum two-page abstract. Abstracts must include a tentative list of participants as well as a desired session format. Individual presentation and full-session abstracts will be reviewed by the **2008 STRUCTURE CONGRESS Steering Committee** before final acceptance.

Session formats will include but are not limited to:

- Standard moderated speaker sessions (3 to 4 speakers per session)
- Panel discussion sessions
- Poster sessions
- "Ask-the-expert" mini-seminars and workshops

## PROCEEDINGS

A CD will be published to document the proceedings of the **2008 STRUCTURES CONGRESS**. Authors of accepted abstracts are strongly encouraged to submit 8- to 10-page papers for inclusion in the proceedings. Authors for the research track and the 18th Analysis and Computation Conference are required to submit papers.

## KEY DATES

**Session/Paper Requests Due: June 15, 2007**

**Notice of Acceptance: August 7, 2007**

**Manuscripts for Peer-Reviewed Analysis and Computation Track Due: October 1, 2007**

**All Final Papers Due: December 15, 2007**



### Bridge & Transportation Structures

- Design Loads
- Cable-stayed
- Construction Issues
- Rail & Light Rail
- Rehabilitation/Restoration
- Seismic, Wind, Snow, Ice, Flood Effects
- Analysis and Design for All Materials
- Monitoring and Serviceability

### Buildings

- Codes and Standards
- Environmental Loads and Effects
- Extreme Load Design
- High-Rise
- Low-Rise
- Sustainability Design
- Analysis and Design for All Materials
- Monitoring and Serviceability

### Business & Professional Practice

- Globalization
- Employee Benefits
- How to Get Closer to the Client
- Law and Ethics
- Licensing and Certification to the Money
- Qualifications of New Hires
- Performance-based Engineering
- Risk Reduction and Management

### Existing Structures – All Types

- Adaptive Reuse
- Evaluation, Monitoring, Serviceability
- Historic Preservation
- Non-ductile Concrete
- Rehabilitation/Upgrade
- Steel Moment & Braced Frames
- Analysis and Design for All Materials

### International

- Business Practices across Countries
- Codes and Standards
- Licensing and Regulations
- Low-cost Structures for Developing Nations
- Olympic Structures
- Structural Engineering Education

### Multi/Cross-Disciplinary

- Architecture in Structural Engineering
- Advances in Materials
- Forensic Structural Engineering
- Innovation in Construction
- Interdependency of Disciplines in the Built Environment
- Performance-based Engineering
- Sustainability and Reconstruction

### Non-Building and Special Structures

- Air-Supported
- Equipment and Utility Anchorage
- Industrial Structures
- Infrastructures
- Lifelines
- Olympic Structures
- Silos, Tanks, Dams
- Analysis and Design for All Materials
- Monitoring and Serviceability

### Research Advances

- Fundamental, Analytical, or Experimental Research Results
- Health Monitoring and Sensor Networks
- NEES Projects
- New Materials and Systems

### 18th Analysis and Computation Specialty Conference

- Educational Concepts
- Emergent Computing Technology
- Optimal Structural Design
- Structural Control
- Structural Response Simulation

Prof. Don Anderson, Ph.D., P.Eng., Co-Chair  
University of British Columbia

Prof. Carlos Ventura, Ph.D., P.Eng., Co-Chair  
University of British Columbia

David Harvey, P.Eng., Struct.Eng., Vice Chair  
Associated Engineering

### STEERING COMMITTEE

Max Bischof, P.Eng., Struct.Eng.  
Bisco Engineering Inc.

Martin Bollo, P.Eng.  
British Columbia Institute of Technology

George de Ridder, P.Eng.  
Associated Engineering

Prof. Marc Hoyt, Ph.D., P.E.  
University of Florida

Don Kennedy, P.Eng., Associated Engineering

Steven Kuan, Ph.D., P.Eng., Building Policy Branch,  
Office of Housing and Construction Standards,  
Government of British Columbia

Jarda Nehybka, P.E., S.E., B. Thayer Associates, New York, NY

Mahmood Rezai, Ph.D., P.Eng., Struct.Eng., EQTec Engineering Ltd.

Prof. Charles Roeder, Ph.D., P.E., University of Washington

Robert Schubak, Ph.D., P.Eng., British Columbia Institute of Technology

Robert Smith, P.Eng., Smith & Co. Ltd.

Andy Vizer, P.Eng., Cement Association of Canada

Thomas G. Williamson, P.E., APA The Engineered Wood Association

Cecilia Bernabe, Secretary, Associated Engineering

### 18th ANALYSIS AND COMPUTATION CONFERENCE

Prof. M. Asghar Bhatti, Ph.D., P.E., Co-Chair  
University of Iowa

Prof. Finley A. Charney, Ph.D., P.E., Co-Chair  
Virginia Tech

Prof. Christopher M. Foley, Ph.D., P.E., Co-Chair  
Marquette University



The International Olympic Committee selected Vancouver as the Host City for the XXI Winter Games in 2010 for its beauty, accessibility, unlimited services, and activities.

Voted "Best City in the Americas" for 2004, 2005, and 2006 by Condé Nast Traveler magazine, Vancouver is a dynamic, multicultural metropolis set in a breathtaking natural environment, with a backdrop of majestic mountains and vistas of the Pacific Ocean. Rainforests, lush gardens, parks, and green spaces abound in this city, along with dozens of golf courses that offer players dazzling views of the surrounding scenery.

During your visit, you can enjoy gourmet cuisine from every corner of the globe, outstanding live entertainment, sporting events, theatre, and outdoor adventure, in addition to spectacular sights.

Among Vancouver's don't-miss attractions:

- Visit Vancouver Lookout at Harbour Centre for a fantastic 360° view of Vancouver and the majestic North Shore Mountains.
- Cross Capilano Suspension Bridge, breathtakingly slung 450 feet (135m) across and 230 feet (70m) above the Capilano River, to Treetops Adventure and walk from one magnificent Douglas fir to another via a series of seven elevated suspension bridges as high as 100 feet (30m) above the forest floor.
- Take a sea tour and explore the islands of Howe Sound, with sea birds, harbor seals, and the dramatic setting of Vancouver's Coast Mountains, or enjoy hiking and sightseeing in one of the world's most magnificent natural environments.
- Walk the West Vancouver Seawall, which provides extraordinary views of Stanley Park, Lions Gate Bridge, and the Pacific Ocean.
- Tour Vancouver Maritime Museum ... VanDusen Botanical Garden ... Grouse Mountain, The Peak of Vancouver ... Vancouver Aquarium ... Dr. Sun Yat-Sen Classical Chinese Garden.

Vancouver offers an endless supply of things to see and do, outdoors or inside, at any time of day or night. It's all yours to explore and enjoy before, during, and after the 2008 STRUCTURES CONGRESS. Make your plans today!

# COMPDYN 2007

13-15 June 2007, Rethymno, Crete, Greece

## How to register and submit contributions

Authors are invited to submit their contributions on any of the conference topics. Submission of abstracts and papers should be performed electronically via the conference website:

<http://www.eng.ucy.ac.cy/compdyn2007>



## An ECCOMAS Thematic Conference

COMPDYN 2007 is one of the Thematic Conferences of the European Community on Computational Methods in Applied Sciences (ECCOMAS), it has been promoted by the European Committee in Solids and Structural Mechanics (ECSSM) of ECCOMAS and is an IACM Special Interest Conference. For further information on ECCOMAS and IACM visit: [www.eccomas.org](http://www.eccomas.org), [www.iacm.info](http://www.iacm.info).

The COMPDYN 2007 conference is organized under the auspices of:

- International Association for Computational Mechanics (IACM)
- International Association for Earthquake Engineering (IAEE)
- European Association for Structural Dynamics (EASD)
- European Association for Earthquake Engineering (EAEE)

and is supported by:

- Greek Association for Computational Mechanics (GRACM)
- National Technical University of Athens, Greece
- University of Cyprus, Nicosia, Cyprus
- University of Thessaly, Volos, Greece
- Technical University of Crete, Chania, Greece
- John Argyris Foundation

## Registration Fees

The registration fees, with early registration applicable if received before 28 February 2007, are:

	Early	Late
Delegates	450€	500€
Students	200€	250€

The fees will include: book of abstracts, CD-ROM with conference proceedings, attendance at all scientific sessions, coffee breaks and social programme.

## Social Programme

The social programme for delegates will include a reception and a banquet at a local place of interest. The social programme will not be included in the reduced student fee.

## Accompanying Persons Programme

The accompanying persons programme features a full-day excursion to the magnificent south coast of Crete, as well as a number of guided tours in the city of Rethymno, the historic palace of Knossos and Iraklion's Archaeological Museum, one of the most interesting museums in the world.



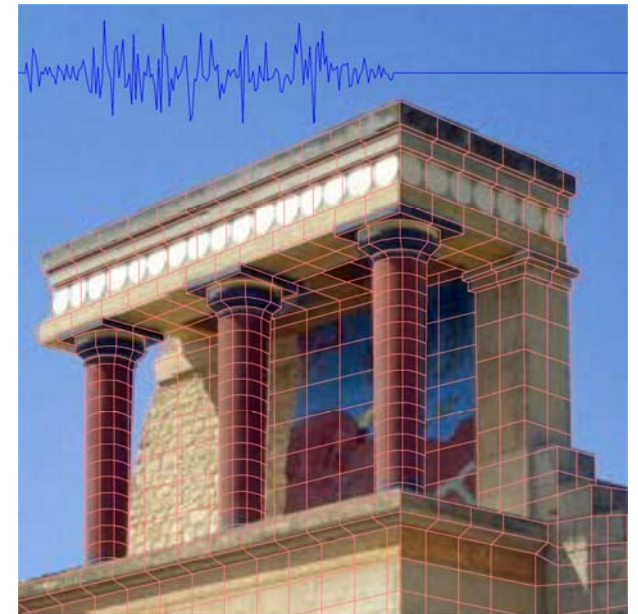
Thematic Conference

ECCOMAS  
European Community on  
Computational Methods in  
Applied Sciences

# COMPDYN 2007

## Computational Methods in Structural Dynamics and Earthquake Engineering

13-15 June 2007, Rethymno, Crete, Greece



<http://www.eng.ucy.ac.cy/compdyn2007>

## Objectives

The increasing necessity to solve complex problems in Structural Dynamics and Earthquake Engineering requires the development of new ideas and innovative methods for providing accurate numerical solutions in affordable computing times.

The purpose of the Conference is to bring together the scientific communities of Computational Mechanics, Structural Dynamics and Earthquake Engineering in an effort to facilitate the exchange of ideas in topics of mutual interests and to serve as a platform for establishing links between research groups with complementary activities. The communities of Structural Dynamics and Earthquake Engineering will benefit from this interaction, acquainting them with advanced computational methods and software tools which can highly assist in tackling complex problems in dynamic/seismic analysis and design, while also giving the Computational Mechanics community the opportunity to become more familiar with very important application areas of great social impact.

## Conference Topics

The conference topics will include (the list is indicative):

- Numerical simulation methods for dynamic problems
- Nonlinear dynamics
- Solution strategies for dynamic equations
- Soft computing applications
- Optimum design in structural dynamics and earthquake engineering
- Parallel and distributed computing – Grid computing technologies
- Soil dynamics
- Geotechnical Earthquake Engineering
- Soil-structure interaction
- Dynamics of coupled problems
- Dynamics of micro and macro systems
- Impact dynamics
- Multi-scale dynamics
- Stochastic dynamics
- Reliability of dynamic systems
- Seismic risk and reliability analysis
- Constitutive modelling under earthquake loading
- Seismic isolation
- Repair and retrofit of structures
- Structural acoustics and vibro-acoustics
- Sound and Vibration
- Aeroelasticity
- Wave propagation
- Algorithms for structural health monitoring
- Inverse problems in structural dynamics

## Location

The conference will take place in the town of Rethymno on the historic island of Crete, Greece. Prominent aspects of Rethymno are its natural beauty and distinctive architecture, the warm and dry climate and of course, its excellent cuisine. The landscape, with its alternating mountain ranges, valleys and beautiful shores on the one hand, and archeological sites and rich architecture (Byzantine, Venetian, Ottoman, Neo-Classical) on the other, constitute, along with the unique character and traditions of the local people, an unforgettable place for recreation and travel.

## Organizers

M. Papadrakakis (Chairman), National Technical University of Athens, Greece  
D.C. Charnpis, University of Cyprus, Nicosia, Cyprus  
N.D. Lagaros, University of Thessaly, Volos, Greece  
Y. Tsompanakis, Technical University of Crete, Chania, Greece

## International Advisory Board

F. Armero, USA	W.B. Krätzig, Germany
A. Barbat, Spain	H. Krawinkler, USA
J. Beck, USA	S. Krenk, Denmark
R.I. Borja, USA	P. Ladeveze, France
C. Borri, Italy	K. Law, USA
C.L. Bottasso, Italy	P. Le Tallec, France
G.M. Calvi, Italy	S.F. Masri, USA
A.K. Chopra, USA	K. Meskouris, Germany
A. Combescur, France	F. Naeim, USA
J.P. Conte, USA	R. Ohayon, France
A. Elgamal, USA	E. Oñate, Spain
B.R. Ellingwood, USA	C. Pantelides, Cyprus
A.S. Elnashai, USA	S. Pezeshk, USA
P. Fajfar, Slovenia	E. Ramm, Germany
F.C. Filippou, USA	A.M. Reinhorn, USA
C. Foley, USA	G. de Roeck, Belgium
D.M. Frangopol, USA	C. Sansour, UK
M.I. Friswell, UK	T. Sato, Japan
L. Gambarotta, Italy	W. Schiehlen, Germany
J. Ghaboussi, USA	B. Schrefler, Italy
O. Ghattas, USA	G.I. Schuëller, Austria
T.J.R. Hughes, USA	C. Soize, France
A. Ibrahimbegovic, France	E.D. Sotelino, USA
H. Jensen, Chile	E. Spacone, Italy
R.K. Kapania, USA	K.K. Tamma, USA
L. Katafygiotis, China	D. Vandepitte, Belgium
E. Kausel, USA	Y.K. Wen, USA
A. der Kiureghian, USA	N.E. Wiberg, Sweden

## National Advisory Board

S.A. Anagnostopoulos (Univ. Patras), I.E. Avramidis (Aristotle Univ. Thessaloniki), D.E. Beskos (Univ. Patras), M. Fardis (Univ. Patras), A. Kappos (Aristotle Univ. Thessaloniki), S.A. Karamanos (Univ. Thessaly), M. Kotsovos (Nat. Techn. Univ. Athens), A. Liolios (Democritus Univ. Thrace), G. Manolis (Aristotle Univ. Thessaloniki), C. Papadimitriou (Univ. Thessaly), C. Provdakis (Techn. Univ. Crete), J. Psycharis (Nat. Techn. Univ. Athens), C. Spiliopoulos (Nat. Techn. Univ. Athens), C. Spyarakos (Nat. Techn. Univ. Athens).

## Important Dates

Deadline for presenting one page abstract **15 October 2006**  
Acceptance of the paper **30 November 2006**  
Deadline for submitting the full paper and early payment **28 February 2007**

## Accommodation



Block reservations at reduced rates have been arranged at the conference hotel Rythimna Beach and at a number of hotels conveniently located in the vicinity of the conference location. Information on these hotels and their rates are available at the Conference website. Please note that all reservations should be addressed to the appointed travel agent:

### Kyriakakis Travel

Tel: +30 8210 27746, Fax: +30 8210 27707  
e-mail: kyrtravel@kyriakakis.gr

## Conference Secretariat

**Institute of Structural Analysis and Seismic Research**  
**National Technical University of Athens**  
**Zografou Campus, Athens 15780**  
**Greece**

**Tel.: +30 210 7721654, Fax: +30 210 7721693**  
**E-mail: compdyn2007@central.ntua.gr**  
**URL: <http://www.eng.ucy.ac.cy/compdyn2007>**



### *Mini-Symposium*

## **Innovative Approaches for Seismic Design using Nonlinear Analysis Methods**

Dear Colleague,

We are pleased to inform you that a Mini-Symposium entitled “**Innovative Approaches for Seismic Design using Nonlinear Analysis Methods**” will be held in the framework of the Computational Methods in Structural Dynamics and Earthquake Engineering ([COMPdyn 2007](#)) conference in Rethymno, Crete, Greece from **13 to 15 June 2007**. The conference is organized under the auspices of the International Association for Computational Mechanics (**IACM**), the International Association for Earthquake Engineering (**IAEE**), the European Association for Structural Dynamics (**EASD**), the European Association for Earthquake Engineering (**EAEE**) and the European Committee on Computational Solid and Structural Mechanics (**ECCSM**).

The Mini-Symposium will focus on novel seismic design approaches that make use of state-of-the-art analysis methods. The organisers would like to give emphasis on methodologies that rely on contemporary computational tools, such as *Structural Optimization* and *Neural Networks*. Other modern design approaches that make use of the advantages of nonlinear analysis methods in the field of earthquake engineering are also welcomed.

As you are an active researcher in this area, it is our great pleasure to invite you or your co-workers to contribute to the aforementioned Mini-Symposium. Should you be able to accept this invitation, we would be grateful if you submitted an abstract of no more than one A4 page. Please note that the abstracts should be submitted electronically directly to the organisers ([mfrag@mail.ntua.gr](mailto:mfrag@mail.ntua.gr)) no later than the 30<sup>th</sup> of November 2006.

Looking forward to hearing from you at your earliest convenience.

Best regards,

Michalis Fragiadakis  
Christopher M. Foley  
Yiannis Tsompanakis

## PERFORMANCE-BASED STRUCTURAL DESIGN OPTIMIZATION

NIKOS D. LAGAROS<sup>\*</sup>, CHRISTOPHER FOLEY<sup>†</sup>  
AND HONGBING FANG<sup>‡</sup>

<sup>\*</sup> National Technical University of Athens,  
Zografou Campus, Athens 15780, Greece  
[nlagaros@central.ntua.gr](mailto:nlagaros@central.ntua.gr), <http://users.ntua.gr/nlagaros/>

<sup>†</sup> Marquette University,  
1515 W. Wisconsin Ave., Milwaukee, WI 53233, U.S.A.  
[chris.foley@marquette.edu](mailto:chris.foley@marquette.edu), <http://www.eng.mu.edu/foleyc/>

<sup>‡</sup> University of North Carolina, Charlotte, U.S.A.,  
9201 University City Blvd., Charlotte, NC 28223-0001, U.S.A.  
[hfang@uncc.edu](mailto:hfang@uncc.edu), <http://www.coe.uncc.edu/~hfang/>

**Key words:** Performance Based Design, Structural Optimization, Seismic Design.

### ABSTRACT

Performance-Based Design (PBD) has been introduced to increase the structural safety against natural hazards, and in the case of earthquakes, to make structures have a predictable and reliable performance. In other words, the structures should be able to resist earthquakes in a quantifiable manner and to present levels of desired possible damage. Therefore, the modern conceptual approach of seismic structural design is that the structure should meet performance-based objectives for a number of different of hazard levels ranging form earthquakes with a small intensity but also with a small return period to more destructive events with large return periods.

The performance-based design methodology allows a different approach to formulating the structural optimization problem. The performance criteria established are at a much higher level than design specification equations and therefore, the designer can convey the design to building owners in terms that can be more easily comprehended. This, after all, was the goal of performance-based engineering. A number of studies have been published in the past where the PBD concept has been implemented in a structural optimization environment.

In this minisymposium we intend to invite active researcher in this field to contribute with the latest research findings within this subject area to the 8<sup>th</sup> WCCM/ECCOMAS 2008 conference.

For any further request, please contact: [nlagaros@central.ntua.gr](mailto:nlagaros@central.ntua.gr)

## *Mini-Symposium*

### *Uncertainties in computational mechanics with emphasis on structural optimization applications*

Dear Colleague,

We are pleased to inform you that the Mini-Symposium: "*Uncertainties in computational mechanics with emphasis on structural optimization applications*", will be organized in the framework of the **IACM-ECCOMAS Congress 2008** in Venice, Italy, from **30 June 2007 to 5 July 2008**. The Conference is the joint VIII World Conference on Computational Mechanics (**WCCM VIII**) and V European Congress on Computational Methods in Applied Science and Engineering (**ECCOMAS V**), organized under the auspices of the International Association for Computational Mechanics (**IACM**) and the European Community on Computational Methods in Applied Sciences (**ECCOMAS**).

The aim of the Mini-Symposium is to attract state-of-the-art papers that deal with the use of advanced stochastic methods in computational mechanics, where the emphasis will be given on the optimal design of structures. The selected contributions will provide an overview of the present thinking as well as the latest research findings related to the application of probabilistic techniques in the field of structural and multidisciplinary optimization.

Since you are an active researcher and one of the top-experts in this area, it is our great pleasure to invite you and your co-workers to contribute to the aforementioned Mini-Symposium. Should you be able to accept this invitation, we would be most appreciative if you could notify your intention to us, **by simply replying this e-mail no later than 30 April 2007**, in order to arrange the meeting's sessions and schedule.

Subsequently, you should submit a draft abstract, with no special format requirements, having a length of about 500 words and, if possible, not to exceed one A4 page. Please note that draft abstracts should be submitted electronically, and **only in pdf format** directly to the Congress site: <http://www.iacm-eccomascongress2008.org/frontal/Submission.asp> **no later than December 15<sup>th</sup>, 2007**. When submitting your abstract please make sure that you will select from the pull-down list the correct Mini-Symposium Title: *Uncertainties in computational mechanics with emphasis on structural optimization applications*. For the accepted contributions, **only a final one-page abstract will be required**, since the Congress organizers do not request a full-length paper.

Looking forward to hearing from you at your earliest convenience.

Yours sincerely,

**Dan Frangopol,**

Professor, Lehigh University, Bethlehem, PA, USA, [dan.frangopol@lehigh.edu](mailto:dan.frangopol@lehigh.edu)

**Yiannis Tsompanakis**

Asst. Professor, Technical University of Crete, Greece, [jt@science.tuc.gr](mailto:jt@science.tuc.gr)



## Venue

IALCCE'08 will be held at **Villa Monastero**, an ancient patrician abode located in Varenna, a picturesque medieval village in a central position on the east coast of Lake Como. Directly located on the lake shore, the villa is surrounded by a beautiful botanical garden, also decorated with architectural elements like tortile columns and balustrades facing the lake. Since 1963 the villa is an *international cultural and scientific centre*.



The **Congress Centre** is harmoniously included in the villa by preserving the original rooms with their own furnishings. The principal conference room is called *Fermi Room* in the honor of the famous Nobel Prize winner who held lessons in Villa Monastero itself. Smaller rooms, containing antique furniture, precious tapestries and unique books, offer wonderful lake views.

## Social Program

A welcome reception, concert, excursion, and banquet will be held during the Symposium. Detailed information will be provided on the Symposium website ([www.ialcce08.org](http://www.ialcce08.org)).

## Accompanying Persons

The program for accompanying persons will include attendance of welcome reception, concert, and banquet. Excursions on Lake Como and nearby attractions will be also organized. They will include day trips by ferry boat to visit the magnificent ancient villas and amazing gardens situated along the shore of Lake Como. For complete information and bookings, please refer to the Symposium website ([www.ialcce08.org](http://www.ialcce08.org)).

## Accommodation

There are several hotels in Varenna and nearby villages on Lake Como. Special rates will be offered to participants from hotels close to the Symposium venue. To benefit from this possibility it is strongly recommended to reserve as soon as possible. For further details, please visit the Symposium website ([www.ialcce08.org](http://www.ialcce08.org)).

## Transportation

Varenna can be reached by car or by train in about one hour from Milan. Detailed information on the easiest itineraries, as well as on the most convenient transportation systems from the nearest international airports (Malpensa, Linate, Orio al Serio, Lugano) will be provided on the Symposium website ([www.ialcce08.org](http://www.ialcce08.org)).

*Last update: April 2007*

## Co-Sponsored by:

<b>ACI</b>	American Concrete Institute
<b>AICAP</b>	Associazione Italiana Calcestruzzo Armato e Precompresso <i>Italian Association of R/C and P/C Designers</i>
<b>AIOM</b>	Associazione di Ingegneria Offshore e Marina <i>Italian Association of Offshore and Marine Engineering</i>
<b>ATLSS</b>	Center for Advanced Technology for Large Structural Systems, Lehigh University, Bethlehem, PA, USA
<b>CTE</b>	Collegio dei Tecnici dell'Edilizia <i>Italian Society of Building Engineers</i>
<b>IABMAS</b>	International Association for Bridge Maintenance and Safety
<b>SEI-ASCE</b>	Structural Engineering Institute <i>American Society of Civil Engineers</i>
<b>TYLI</b>	T. Y. Lin International, San Francisco, CA, USA
<b>UPC</b>	Universitat Politècnica de Catalunya, Barcelona, Spain



Inquiries regarding the Symposium should be sent to:

### IALCCE'08 Secretariat

Ms. **Paola Limonta** and Ms. **Roberta Stucchi**, PhD Students  
Dept. of Structural Engineering, Politecnico di Milano  
P.za L. da Vinci, 32 - 20133 Milan (Italy)  
Tel. +39-02-2399-4379 - Fax +39-02-2399-4220  
Email: [info@ialcce08.org](mailto:info@ialcce08.org)

For detailed information please visit the Symposium website:

<http://www.ialcce08.org>

# IALCCE'08

## First International Symposium on Life-Cycle Civil Engineering

Varenna, Lake Como, Italy  
June 11-14, 2008

<http://www.ialcce08.org>

## Call for Papers



POLITECNICO  
DI MILANO



International Association for  
Life-Cycle Civil Engineering  
<http://www.ialcce.org>

### Symposium Chairs

**Fabio Biondini**  
Politecnico di Milano, Milan, Italy

**Dan M. Frangopol**  
Lehigh University, Bethlehem, PA, USA

## IALCCE'08

The **First International Symposium on Life-Cycle Civil Engineering** (IALCCE'08) is organized on behalf of the International Association for Life-Cycle Civil Engineering (IALCCE) under the auspices of Politecnico di Milano. The Symposium will be held in Varenna, Lake Como, Italy, on June 11-14, 2008 ([www.ialcce08.org](http://www.ialcce08.org)).

## IALCCE

IALCCE is a very young Association founded in October 2006. This Association will cover all aspects of life-cycle assessment, design, maintenance, rehabilitation and monitoring of civil engineering systems. The objective of the Association is to promote international cooperation in the field of life-cycle civil engineering for the purpose of enhancing the welfare of society ([www.ialcce.org](http://www.ialcce.org)).

## Aim of the Symposium

The aim of IALCCE'08 is to bring together all the very best work that has been done in the field of life-cycle civil engineering and related topics, to stimulate and promote research into this field, and to bridge the gap between theory and practice.

## Delegates

The Symposium will be of interest to researchers, representatives from all sections of civil engineering, and engineers working with engineering companies, consultants, contractors, and local authorities interested in all aspects of life-cycle civil engineering.

## Symposium Topics

The state of the art as well as emerging concepts and innovative applications in the field of life-cycle civil engineering will be considered. Specifically, IALCCE'08 will focus on the following topics:

### LIFE-CYCLE DAMAGING PROCESSES

Aging of Structures  
Deterioration Modeling  
Durable Materials  
Earthquake and Accidental Loadings  
Fatigue and Damage  
Fire and High Temperatures  
Marine and Severe Environments  
Structure-Environment Interaction

### LIFE-CYCLE MONITORING, MAINTENANCE, AND REHABILITATION

Damage Identification  
Field Testing  
Health Monitoring  
Inspection and Evaluation  
Maintenance Strategies  
Rehabilitation Techniques  
Strengthening and Repair  
Structural Integrity

### LIFE-CYCLE COST OF STRUCTURES AND INFRASTRUCTURES

Decision Making Processes  
Human Factors in Life-Cycle Engineering  
Life-Cycle Cost Models  
Project Management  
Risk-Lifetime Analysis and Optimization  
Whole Life Costing

### LIFE-CYCLE ASSESSMENT AND DESIGN

Design for Durability  
Failure Analysis and Risk Prevention  
Lifetime Structural Optimization  
Long-term Performance Analysis  
Performance Based Design  
Service Life Prediction  
Time-variant Reliability  
Uncertainty Modeling

### LIFE-CYCLE PERFORMANCE OF SPECIAL STRUCTURES

Bridges and Viaducts  
High-rise Buildings  
Hydraulic Structures  
Off-Shore Structures  
Precast Systems  
Roof Systems and Hangars  
Runway and Highway Pavements  
Tunnels and Underground Structures

### LIFE-CYCLE ORIENTED COMPUTATIONAL TOOLS

Artificial Intelligence Methods  
Evolutionary Procedures  
Heuristic Techniques  
Mathematical Optimization  
Soft-Computing Methods  
Survival Models and Simulation

## Organization

### Symposium Chairs

**Fabio Biondini**, Politecnico di Milano, Milan, Italy  
**Dan M. Frangopol**, Lehigh University, Bethlehem, PA, USA

### Steering Committee

**Dan M. Frangopol**, Lehigh University, Bethlehem, PA, USA (Chair)  
**Alfredo H-S. Ang**, University of California, Irvine, CA, USA (Ex Officio)  
**Fabio Biondini**, Politecnico di Milano, Milan, Italy (Ex Officio)  
**Moe Cheung**, Hong Kong Univ. of Science and Technology, Hong Kong  
**Hyo-Nam Cho**, Hanyang University, Ansan, Korea  
**Luis Esteve**, National University of Mexico, Mexico City, Mexico  
**Hitoshi Furuta**, Kansai University, Osaka, Japan  
**Robert Melchers**, University of Newcastle, Callaghan, NSW, Australia  
**Udo Peil**, Technical University Braunschweig, Germany  
**Asko Sarja**, Innokas Consulting Co, Espoo, Finland

### Scientific Committee

**Alfredo H-S. Ang**, University of California, Irvine, CA, USA (Chair)  
**Jaap Bakker**, Ministry of Transport, Utrecht, The Netherlands  
**Larry Bergman**, University of Illinois at Urbana-Champaign, IL, USA  
**Franco Bontempi**, University of Rome "La Sapienza", Milan, Italy  
**Christian Bucher**, Bauhaus-Universität, Weimar, Germany  
**Harald Budelmann**, Technical University Braunschweig, Germany  
**Joan R. Casas**, Technical University of Catalonia, Barcelona, Spain  
**Marios K. Chryssanthopoulos**, University of Surrey, Surrey, UK  
**Ross Corotis**, University of Colorado, Boulder, CO, USA  
**Paulo J. S. Cruz**, University of Minho, Guimarães, Portugal  
**Sofia Diniz**, Federal University of Minas Gerais, Belo Horizonte, Brazil  
**Bruce Ellingwood**, Georgia Institute of Technology, Atlanta, GA, USA  
**Allen Estes**, California Polytechnic State Univ., San Luis Obispo, CA, USA  
**Michel Ghosn**, City College of New York, New York, NY, USA  
**Leo Klatter**, Ministry of Transport, Utrecht, The Netherlands  
**Hyun-Moo Koh**, Seoul National University, Seoul, Korea  
**Jung Sik Kong**, Korea University, Seoul, Korea  
**Vladimir Kristek**, Czech Technical University, Prague, Czech Republic  
**Xila L. Liu**, Shanghai Jiaotong University, Shanghai, China  
**Pier Giorgio Malerba**, Politecnico di Milano, Milan, Italy  
**Antonio Mari**, Technical University of Catalonia, Barcelona, Spain  
**Ayaho Miyamoto**, Yamaguchi University, Yamaguchi, Japan  
**Luis Neves**, Univ. Nova de Lisboa, Monte de Caparica, Portugal  
**Andrzej Nowak**, University of Nebraska, Lincoln, NE, USA  
**Mark Stewart**, University of Newcastle, Callaghan, NSW, Australia  
**Man-Chung Tang**, T.Y. Lin International, San Francisco, CA, USA  
**Wilson Tang**, Hong Kong Univ. of Science and Technology, Hong Kong  
**Palle Thoft-Christensen**, Aalborg University, Aalborg, Denmark  
**Eiichi Watanabe**, Kyoto University, Kyoto, Japan  
**John L. Wilson**, Lehigh University, Bethlehem, PA, USA

### Local Advisory Committee

**Pier Giorgio Malerba**, Politecnico di Milano (Chair)  
**Franco Bontempi**, University of Rome "La Sapienza"  
**Fabio Casciati**, University of Pavia  
**Claudio Ceccoli**, University of Bologna  
**Mario Como**, University of Rome "Tor Vergata"  
**Edoardo Cosenza**, University of Naples "Federico II"  
**Andrea Del Grosso**, University of Genoa  
**Alessandro De Stefano**, Politecnico di Torino  
**Luigino Dezi**, University of Ancona  
**Pasquale Malangone**, Second University of Naples  
**Giuseppe Mancini**, Politecnico di Torino  
**Luigi Annibale Materazzi**, University of Perugia  
**Claudio Modena**, University of Padua  
**Alberto Parducci**, University of Perugia  
**Emanuele F. Radogna**, University of Rome "La Sapienza"  
**Paolo Spinelli**, University of Florence  
**Giandomenico Toniolo**, Politecnico di Milano

## Local Organizing Committee

**Fabio Biondini**, Politecnico di Milano (Chair)  
**Luca Bertolini**, Politecnico di Milano  
**Marcello Ciampoli**, University of Rome "La Sapienza"  
**Maurizio Crispino**, Politecnico di Milano  
**Elsa Garavaglia**, Politecnico di Milano  
**Massimiliano Giofrè**, University of Perugia  
**Stefano Malavasi**, Politecnico di Milano  
**Alessandra Marchiondelli**, SPEA Ingegneria Europea, Milan  
**Livia Pardi**, Autostrade per l'Italia, Rome  
**Zila Rinaldi**, University of Rome "Tor Vergata"

## Language

The official language of the Symposium will be English.

## Submission of Abstracts

Authors are kindly invited to submit 250-word abstracts to the Symposium Secretariat by **July 30, 2007**. Abstracts should be submitted in electronic form by email ([secretariat@ialcce08.org](mailto:secretariat@ialcce08.org)), together with a preliminary registration form ([www.ialcce08.org](http://www.ialcce08.org)). Authors will be notified regarding the acceptance of their abstracts by September 15, 2007. Full papers will be due by December 15, 2007.

## Publication

The proceedings of IALCCE'08 will be published by *Taylor&Francis*. A book and a CD-ROM will be distributed to participants. Extended versions of selected papers presented at the Symposium will be considered for publication in **Structure and Infrastructure Engineering**, an international peer-reviewed scientific journal endorsed by IALCCE and included in the ISI Science Citation Index.



*Structure and Infrastructure Engineering* is dedicated to recent advances in the field of life-cycle performance of a wide range of structures and infrastructures, such as: buildings, bridges, dams, underground constructions, offshore platforms, pipelines, naval vessels, ocean structures, nuclear power plants, airplanes and other types of structures ([www.tandf.co.uk/journals/titles/15732479.asp](http://www.tandf.co.uk/journals/titles/15732479.asp) or [www.informaworld.com/sie](http://www.informaworld.com/sie)).

## Registration

Early and on-site registration will be possible for all participants. Please note that early registration is strongly recommended. Participants who complete early registration will benefit from a discount rate and the Symposium documentation will be ready upon their arrival. Deadline for early registration is **March 1, 2008**. Detailed information about registration forms and registration fees will be provided on the Symposium website ([www.ialcce08.org](http://www.ialcce08.org)).

## Important Dates

Abstract Submission ..... July 30, 2007  
Notice of Abstract Acceptance ..... September 15, 2007  
Full Paper Submission ..... December 15, 2007  
Early Registration ..... March 1, 2008