

SEDUREC 2009

International Symposium on Safety and Durability of Materials and Constructions

25-27 February 2009 Barcelona, Spain

Symposium Venue
SEDUREC 2009 will take place at the Technical University of Catalonia (UPC), Jordi Girona 1-3, 08034 Barcelona, Spain. The specific location will be announced in the symposium web page.

Registration Fees
The registration fees, including social events, with early registration applicable if received before **January 15, 2009** are:

Delegates	Early	Late
Students	180 €	215 €

ECCOMAS and IACM members will have a 5% reduction on the delegates fees. The delegate fees will include: Conference Proceedings; Attendance at all scientific sessions; Coffee breaks, reception and banquet

Registration should be performed electronically via the symposium web site.

<http://congress.cimne.upc.es/sedurec09>

Accommodation

Block reservations at preference rates will be arranged by the organizers. For detailed information visit the conference site.

Symposium Secretariat

International Center for Numerical Methods

in Engineering (CIMNE)

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Supporting Organisations

- International Center for Numerical Methods in Engineering (CIMNE), Barcelona, Spain
- School of Civil Engineering, Barcelona, Spain
- Universitat Politècnica de Catalunya (UPC), Barcelona, Spain
- Universidad Politécnica de Madrid (UPM), Spain
- European Community on Computational Methods in Applied Sciences (ECCOMAS)
- International Association for Computational Mechanics (IACM)
- Eduardo Torroja Institute for Construction Science, Spain

List of speakers

- C. Andrade, Inst. de Ciencias de la Construcción Eduardo Torroja, Spain
- A. Barbat, Univ. Politècnica de Catalunya, Barcelona, Spain
- A. Bentur, Israel Institute of Technology, Haifa, Israel
- F. Biondini, Politecnico di Milano, Italy
- F. Bontempi, University of Rome "La Sapienza", Rome, Italy
- J.R. Casas, Univ. Politècnica de Catalunya, Barcelona, Spain
- M. Faber, Institut f. Baustatik und Konstruktion, Zürich, Switzerland
- D.M. Frangopol, Lehigh University, Bethlehem, USA
- J. Hurtado, Univ. Nacional de Colombia, Manizales, Colombia
- D.R. Jones, University of Cambridge, Cambridge, UK
- H. Mang, Technische Universität Wien, Wien, Austria
- A. Martí, Univ. Politècnica de Catalunya, Barcelona, Spain
- J. Mazars, Institut National Polytechnique de Grenoble, France
- G. Meschke, Ruhr-Universität Bochum, Germany
- X. Oliver, Univ. Politècnica de Catalunya, Barcelona, Spain
- E. Oñate, Univ. Politècnica de Catalunya, Barcelona, Spain
- R. Owen, University of Swansea, UK
- M. Papadarakakis, National Technical University of Athens, Greece
- G. Pijaudier-Cabot, Lab. des Fluides Complexes, UMR, Anglet, France
- H. Reinhardt, University of Stuttgart, Germany
- O.I. Rio, Inst. de Ciencias de la Construcción Eduardo Torroja, Spain
- P. Roca, Univ. Politècnica de Catalunya, Barcelona, Spain
- J. Rodríguez, DRAGADOS, Madrid, Spain
- J. Rojek, Inst. of Fundamental Technological Research, Warsaw, Poland
- V. Sánchez Galvez, Univ. Politècnica de Madrid, Madrid, Spain
- B. Schrefler, Univ. of Padova, Italy
- S. Shah, Technological Institute, USA
- B. Suárez, Univ. Politècnica de Catalunya, Barcelona, Spain
- P. Tanner, Inst. de Ciencias de la Construcción Eduardo Torroja, Spain
- M.A. Toledo, Universidad Politècnica de Madrid, Spain
- F. Tomosawa, Univ. of Tokyo, Japan
- K.J. William, Dept. of CEAE, Boulder, Colorado, USA

The SEDUREC Project

SEDUREC 2009 is an initiative of the SEDUREC Project on Safety and Durability of Constructions supported by the Consolider Ingenia 2010 Programme of the Ministry of Science and Education of Spain.



An ECCOMAS Thematic Conference

SEDUREC 09 is one of the Thematic Conferences of the European Community in Computational Methods in Applied Sciences (ECCOMAS) www.eccomas.org



Objectives

SEDUREC 2009 will address the advances in both the computational methods and the experimental techniques for the analysis of the safety and durability of materials and constructions in civil engineering and architecture.

The ability to provide numerical simulations for predicting failure of structures with standard and new composite materials is advancing rapidly. Significant advances have been made in the formulation and implementation of algorithms for static and dynamic problems involving finite strains, complex contact interaction laws, constitutive material behaviours including multi-physics or multi-scale effects, progressive large scale fracturing, etc. Such advances, however, demand a closer interaction between numerical analysts and material scientists in order to produce theoretical models which provide a response in keeping with fundamental material principles and experimental observations. Numerical techniques, and in particular finite element and discrete element methods, are now extensively employed in non-linear structural analysis and very often offer the only means of solution for practical engineering problems. Experimental methodologies for structural analysis on the other hand, are undergoing significant technological changes. The development of wireless sensor networks (WSN) incorporating the advances in networked info-mechanical systems (NIMS) for intelligent control and operation of maintenance systems add new possibilities for enhanced safety and durability of constructions.

SEDUREC 2009 will act as a forum for developers and partitioners in the field of safety and durability of materials and constructions to discuss recent advances in both computational and experimental techniques and identification of future research directions. SEDUREC 2009 has been organised on a number of keynote lectures delivered by recognized international experts in the field of safety and durability of constructions. A time for questions and debate will be allowed for each presentation.

Organizing Committee

E. Oñate (chairman)

Univ. Politècnica de Catalunya (UPC), Spain

V. Sanchez-Galvez (co-chairman),

Univ. Politècnica de Madrid (UPM), Spain

C. Andrade

Instituto de Ciencias de la Construcción Eduardo Torroja, Spain

O. I. Rio

Instituto de Ciencias de la Construcción Eduardo Torroja, Spain

Symposium Programme

13:30	Lunch	
14:30	SESSION 5	Kaspar J. William , Title to be announced
14:30	SESSION 6	Vicente Sanchez Galvez , Numerical simulation of blast effect on reinforced concrete structures
16:30	Coffee	
17:00	SESSION 7	Peter Tanner , Acceptable level of notional risks associated with structural design.
17:00	SESSION 8	David R. Jones , Avoiding fatigue failure in large steel structures - Problems of technology transfer between designers and codes, and codes and the scientific literature
20:30	Banquet	
19:30	Welcome Reception	
19:30	SESSION 9	Manolis Papadarakakis , Safety of structures under seismic loading: A critical assessment of the design codes
17:00	SESSION 2	Dan M. Frangopol , Lifetime safety, redundancy and durability of structures under uncertainty
16:30	Coffee	
14:30	SESSION 1	Jesús Rodríguez , Safety and Durability of Constructions.
14:30	SESSION 3	Herbert Mang , Structural safety of concrete tunnel shells subjected to fire load
11:00	Coffee	
11:00	SESSION 4	Herbert Mang , Structural safety of concrete tunnel shells subjected to fire load
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