

## Objectives

Textile composites and inflatable structures are becoming increasingly popular for a variety of applications in - among many other fields - civil engineering, architecture and aerospace engineering. Typical examples include membrane roofs and covers, sails, inflatable buildings and pavilions, airships, inflatable furniture, airspace structures etc. The objectives of STRUCTURAL MEMBRANES 2007 are to collect and disseminate state-of-the-art research and technology for design, analysis, construction and maintenance of textile and inflatable structures. Previous editions of the conference were held in Barcelona (2003) and Stuttgart (2005).

The ability to provide numerical simulations for increasingly complex membrane and inflatable structures is advancing rapidly due to computer hardware development and the improved maturity of computational procedures for nonlinear structural systems. Significant progress has been made in the formulation of finite element methods for static and dynamic problems, complex constitutive material behaviour, coupled aero-elastic analysis etc. STRUCTURAL MEMBRANES 2007 will address both the theoretical bases for structural analysis and the numerical necessary for efficient and robust computer implementation.

A significant part of the conference will be devoted to discuss advances in new textile composites for applications in membrane and inflatable structures, as well as in innovative design, construction and maintenance procedures. Sessions related to specific topics of the conference will be introduced by a keynote lecture in the respective field. These keynote lectures will be complemented by invited sessions organised by recognised experts in targeted research and applied areas, as well as by contributed papers.

STRUCTURAL MEMBRANES 2007 aims to act as a forum for discussing recent progress and identifying future research directions in the field of textile composites and inflatable structures.

## Conference Topics

- Design Methods
- Numerical Methods for Structural Analysis
- New Membrane Materials
- Testing Procedures
- Manufacturing
- Construction Methods
- Maintenance Techniques
- Energetic Aspects
- Climate Impact
- Environmental Aspects
- Pressure Management
- Adaptivity
- Applications: membrane roofs and covers, sails, inflatable pavilions and buildings, geo-textiles, inflatable bridges and dams airships, airbags spill recovery bags, airspace structures, inflatable antennas, furniture, etc.

## Conference Chairmen

E. Oñate, Univ. Politecnica de Catalunya, Barcelona, Spain  
B. Kröplin, University of Stuttgart, Germany

## Technical Advisory Panel

J. Ayneto, Spain	M. Mollaert, Belgium
M.C. Bernasconi, Switzerland	R. Motro, France
K-U. Bletzinger, Germany	H. Ohmori, Japan
R. Blum, Germany	M. Papadrakakis, Greece
D. Campbell, USA	S. Pellegrino, UK
J.I. de Llorens, Spain	J. Perez Valcárcel, Spain
B. Defoort, France	A. Pronk, Netherlands
F. Escrig, Spain	E. Ramm, Germany
F. Flores, Argentina	R. Rossi, Italy
A.J. Gil, UK	M. Saitoh, Japan
V. Gomez Molinero, Spain	A. Samartín, Spain
K. Ishii, Japan	V. Sarrablo, Spain
M. Kawaguchi, Japan	R. Sastre, Spain
K. Kurokawa, Japan	K. Schweizerhof, Germany
K.W. Linkwitz, Germany	E. Stach, USA
J. Llorens, Spain	E. Stein, Germany
M. Majowiecki, Italy	R. Tarczewski, Poland
J. Marcipar, Spain	R. L. Taylor, USA
E. Moncrieff, Germany	R. Wagner, Germany
J. Monjo, Spain	D. Wakefield, UK
J. Miquel Canet, Spain	P. Wriggers, Germany

## An ECCOMAS Thematic Conference

Structural Membranes 2007 is one of the Thematic Conferences of the European Community in Computational Methods in Applied Sciences (ECCOMAS) [www.eccomas.org](http://www.eccomas.org)  
Structural Membranes is also an IACM Special Interest Conference. More information about IACM in: [www.iacm.info](http://www.iacm.info)



## Important Dates

Deadline for presenting one-page abstract	<b>20 March 2007</b>
Acceptance of the contributions and instructions	<b>3 May 2007</b>
Deadline for submitting an extended abstract and early payment	<b>5 July 2007</b>
Booking of hotel accommodation	<b>ASAP</b>

## Exhibition

An exhibition on membrane and inflatable structures will be organized in connection with the Conference. Interested exhibitors can find the necessary information on the conference website.

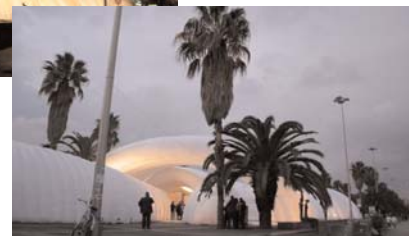
## Structural Membranes 2007

17-19 September 2007, Barcelona, Spain

### How to register and submit contributions

Authors are invited to submit their contributions on any of the conference topics. Submission of contributions and conference registration should be performed electronically via the conference web site.

<http://congress.cimne.upc.es/membranes07>



# Structural Membranes 2007

17-19 September 2007, Barcelona, Spain

## Conference Secretariat

International Center for Numerical  
Methods in Engineering (CIMNE)  
Edificio C1, Campus Norte UPC  
Gran Capitán, s/n.  
08034 Barcelona, Spain  
Tel: +34 934017441  
Fax: +34 934016517  
membranes07@cimne.upc.edu



<http://congress.cimne.upc.es/membranes07>

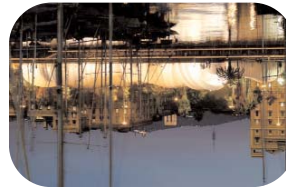


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organizers. Detailed information will be available on the Conference

## Accommodation

- COMPASS Ingeniería y Sistemas SA
- Quantech ATZ SA
- Airship Technologies
- Arquitectura S.A.
- Build Air Ingeniería y
- Catalunya (UPC)
- Universitat Politècnica de
- Shell and Spatial Structures (IASS)
- International Association for
- Computational Mechanics (IACM)
- International Association for
- Applied Sciences (ECCOMAS)
- Computational Methods in
- European Community on



## Supporting Organisations

A social programme for delegates and accompanying persons will be arranged, including a reception and a banquet at a local place of interest.

## Social Programme

- Coffee breaks, reception and banquet
- Attendance at all scientific sessions
- Conference Proceedings

The delegate fees will include:

delegates fees.

ECCOMAS members will have a 10% reduction on the

Delegates	480 €
Students	250 €
Late	530 €
Early	290 €

registration applicable if received before 5 July 2007, are:

## Registration Fees

The conference will take place at the Conference Hall of the School of Civil Engineering at the Technical University of Catalonia (UPC), Edificio C2, Gran Capitán s/n, 08034 Barcelona.

## Location

ECCOMAS  
European Community on  
Computational Methods in  
Applied Sciences



# Structural Membranes 2007

An IACM Special Interest Conference

## Organisers:

International Center for Numerical  
Methods in Engineering (CIMNE)  
Barcelona, Spain

Institute for Statics and Dynamics  
of Aerospace Structures (ISD)  
University Stuttgart, Germany

# Textile Composites and Inflatable Structures

17-19 September 2007, Barcelona, Spain

