

## Particles 2011

26-28 October 2011, Barcelona, Spain

### Conference Secretariat

International Center for Numerical Methods  
in Engineering (CIMNE)

CIMNE - Congress Management Department

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<http://congress.cimne.upc.es/particles2011>



## An ECCOMAS Thematic Conference

PARTICLES 2011 is one of the Thematic Conferences of the European Community in Computational Methods in Applied Sciences (ECCOMAS) For further information on ECCOMAS visit: [www.eccomas.org](http://www.eccomas.org)

PARTICLES 2011 is also an IACM Special Interest Conference. More information about IACM in: [www.iacm.info](http://www.iacm.info)

## About Barcelona

The Barcelona of the 21st. Century is a European capital of astonishing cultural energy and a passion for progress, a city whose day-to-day life brings together every imaginable facet of the most diverse activities: these are the potential that has fashioned the city's present and give it the impetus to move forward into the future.

## Registration Fees

The registration fees in euro, including social events, with early registration applicable if received before June 18th. 2011 are:

	Early	Late
<b>Delegates</b>	490 €	590 €
<b>Students</b>	290 €	350 €

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

## Accommodation

Block reservations at preference rates will be arranged by the organizers. Detailed information will be available on the Conference site.

## Supporting Organisations

- European Community on Computational Methods in Applied Sciences (ECCOMAS)
- International Association for Computational Mechanics (IACM)
- International Center for Numerical Methods in Engineering (CIMNE)
- Universitat Politècnica de Catalunya (UPC), Barcelona, Spain
- School of Civil Engineering, UPC, Barcelona, Spain
- Swansea University, School of Engineering, Civil & Computational Engineering Centre

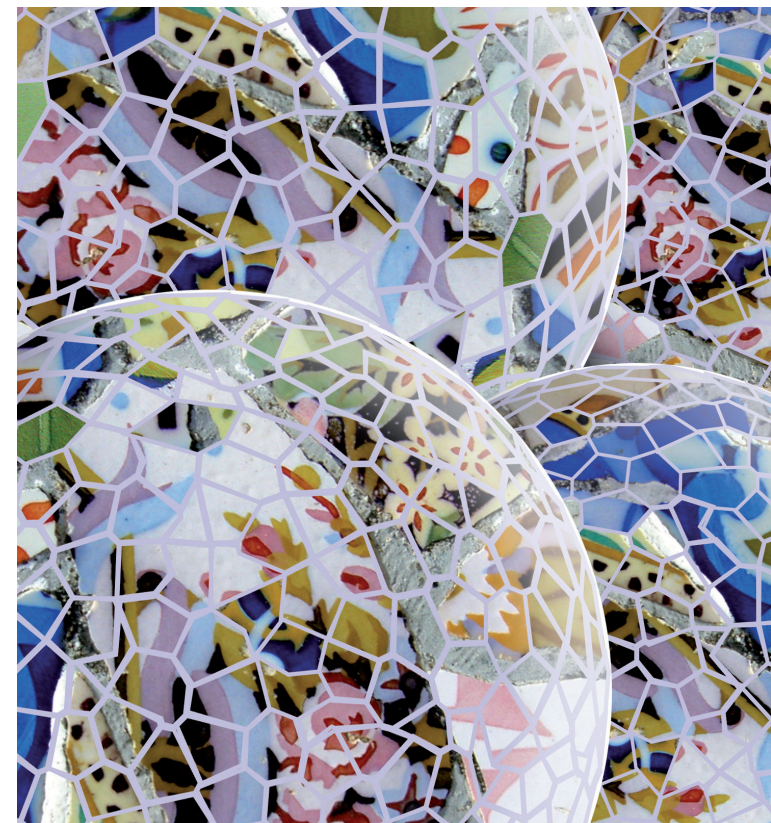


# Particles 2011

## II International Conference on Particle-Based Methods Fundamentals and Applications

26-28 October 2011, Barcelona, Spain

An IACM Special Interest Conference



<http://congress.cimne.upc.es/particles2011>

## Objectives

The second conference on Particle-Based Methods (PARTICLES 2011) is a joint initiative of Universitat Politècnica de Catalunya (Spain) and Swansea University (UK). The previous conference on these series was held in Barcelona on 25-27 November 2009 and attracted some 150 participants.

PARTICLES 2011 will address both the fundamental basis and the applicability of state of the art particle-based computational methods that can be effectively used for solving a variety of problems in engineering and applied sciences. The applications of the particle-based methods presented in the conference will cover the analysis of geo-mechanical and mining problems, industrial forming processes, fluid-structure interaction problems accounting for free surface flow effects in civil and marine engineering (water streams acting on constructions, wave loads in harbours and marine structures, ship hydrodynamics, etc.), multi-fracturing processes in impact situations, nano-micro-macroscopic effects in material science and bio-medical engineering, molecular dynamics, quantum mechanics problems, melting of polymers in fire situations and many others.

PARTICLES 2011 also aims to be a forum for practitioners in the computational mechanics field to discuss recent advances and identify future research directions for particle-based methods.

Plenary Lectures will be complemented by Invited Sessions organised by recognised experts in targeted research areas of particle-based techniques as well as by contributed papers received from the general Call for Papers.

## Conference Topics (the list is not exhaustive)

### Fundamentals

- Atomistic methods
- Discrete element methods
- Innovative computational models
- Material point methods
- Meshless methods
- Molecular dynamics
- Particle finite element methods
- Smooth part. hydrodynamics

### Applications

- Bio-medical engineering
- Composites
- Computational chemistry
- Contact problems
- Damage, fracture & fatigue
- Disintegration processes
- Earth and rock-fill dams
- Environment and geosciences
- Forming processes

- Free surface flows
- Geomechanics
- Geophysics
- Granulation processes
- High velocity impact and blast problems
- Industrial applications
- Melting of objects in fire situations
- Mixing processes
- Multi-body and non-linear dynamics
- Multi-fracturing solids systems
- Multi-physics problems
- Multi-scale material models
- Multiphase flows
- Nano-mechanics
- Parallel processing
- Quantum mechanics
- Radiation damage
- Real time computing
- Ship hydrodynamics

## Organisers

Particles 2011 is a joint initiative of Universitat Politècnica de Catalunya (UPC) in Spain and Swansea University in UK.

## Organising Committee

**D.R.J. Owen (Chairman)**, Swansea University, UK

**E. Oñate (Co-Chairman)**, Univ. Politècnica de Catalunya, Spain

## Advisory Scientific Committee

**T. Belytschko**, Northwestern Univ., USA

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**J. Bonet**, Swansea University, UK

**N. Bicanic**, University of Glasgow, UK

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**P. Cleary**, CSIRO, Australia

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**G. Yagawa**, Toyo University, Japan

**S. Yim**, Stevens Institute of Technology, USA

**F. Zárate**, CIMNE/UPC, Spain

## Important Information

Deadline for presenting one page abstract **21 January 2011**

Acceptance of the contributions and instructions for writing an extended abstract **26 February 2011**

Deadline for submitting an extended abstract and early payment **18 June 2011**

Booking of hotel accommodation **soon available in the web**

Conference Location **soon available in the web**

View of Barcelona old harbour



## PARTICLES 2011

Barcelona, Spain, 26-28 October 2011

## 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/particles2011>