

XFEM 2013 11-13 September 2013, Lyon, France

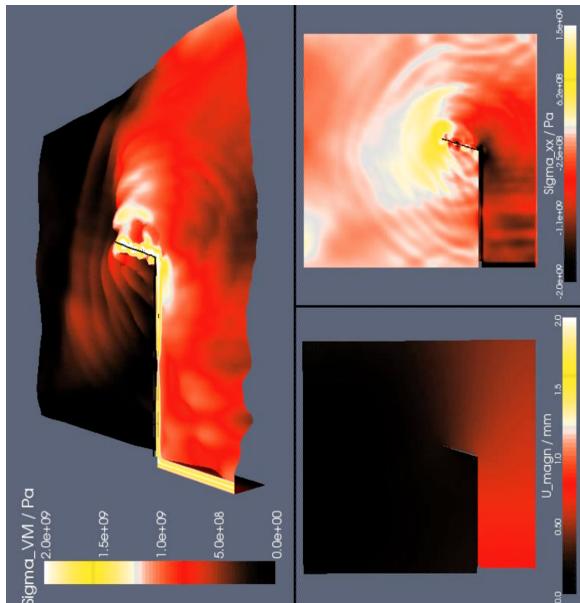
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<http://xfem2013.sciencesconf.org>



ECCOMAS and IACM support

XFEM 2013 is one of the Thematic conferences of the European Community on Computational Methods in Applied Sciences (ECCOMAS): www.eccomas.org

XFEM 2013 is also a Special Interest Conference of the International Association for Computational Mechanics (IACM): www.iacm.info

About Lyon

Its geographic location at the heart of Europe has always made Lyon a place of warmth and cultural exchange. Today, Lyon still passionately cultivates this tradition of hospitality and openness and stimulates cultural exchange. Having been identified as a UNESCO World Heritage Site and a leading urban tourism destination in Europe, Lyon is also esteemed for its professionalism in the hosting and organisation of major events. Its economic vitality, its cutting-edge infrastructure and its top-quality hotels guarantee that an event in our city will be a success. In Lyon, the past and the future meet in the present. It is a city where heritage, modernity and urban equilibrium compete with each other which ensures that each moment, each discovery and each encounter that awaits you is full of wonder.

Registration Fees

Registration fees are expressed in Euro. **Early registration applicable if paid before June 3 2013.**

	Early	Late
Delegates	520 €	620 €
Students	300 €	380 €

The fees will include: conference proceedings, attendance at all scientific sessions and coffee breaks.

Supporting Organisations

ECCOMAS
CSMA
Safran
Areva
Région Rhône-Alpes
Université de Lyon
Lamcos
ICJ



XFEM 2013

International Conference on
Extended Finite Element Methods,
Generalized Finite Element Methods
and Fictitious Domain Methods:
Recent developments and applications

11-13 September 2013, Lyon, France

An IACM Special Interest Conference



<http://xfem2013.sciencesconf.org>

Objectives

The eXtended Finite Element Method (XFEM), the Generalized Finite Element Method (GFEM) and more generally Partition of Unity Methods (PUM) have played an increasingly important role to simulate various phenomena in Structural Mechanics and Engineering. In a sense, these methods belong to the larger class of **Fictitious Domain Methods**.

These methods have two main characteristics. On the one hand, the ability to add, locally, a priori knowledge about the solution to the approximation space in order to capture particular features such as discontinuities and singularities present in the solution exactly. On the other hand the ability to propagate discontinuities and singularities without any remeshing operation.

XFEM in particular has been used successfully to solve crack initiation and propagation problems, multi-material systems, fluid flow with boundary layers, combustion problems, fluid structure interaction, growth of hydrogels and biofilms among others, with minimal meshing and remeshing of the moving boundaries involved.

XFEM 2013 is one of the successful series of ECCOMAS thematic events. XFEM 2013 is a medium-size conference with a balanced participation covering both the theoretical aspects of the subject and engineering applications. A special objective of XFEM 2013 is to expand the themes of the conference to fictitious domain methods in general and especially for comparisons of different methods.

Conference Topics

Over the years, research has refined the initial version of the method and one can identify the following salient topics under particularly intensive study:

- Solid and fracture mechanics,
- Material and structural design,
- Fluid-structure interaction, multi-fluid, free-surface flow,
- Fictitious domain methods,
- Multiphysics problems,
- Mathematical aspects: preconditioners, convergence, numerical integration, application of boundary conditions on moving interfaces, blending, a priori/posteriori error estimation,
- XFEM multiscale strategies / multiscale problems,
- GFEM, PUFEM, strong discontinuities and beyond,
- Combined experimental and numerical XFEM methodologies,
- Computer implementation aspects.

Organizing Committee

- Prof. Anthony Gravouil (Chairman), INSA-Lyon, France
Prof. Yves Renard (Co-chairman), INSA-Lyon, France
Prof. Alain Combescure (Honorary chairman), INSA-Lyon, France
Prof. Marie-Christine Baietto, INSA-Lyon, France
Dr. Thomas Elguedj, INSA-Lyon, France
Dr. Julien Réthoré, INSA-Lyon, France
Mrs. Isabelle Comby, INSA-Lyon, France

Scientific Committee

- Prof. Olivier Allix, LMT Cachan, France.
Prof. Ted Belytschko, Northwestern University, USA.
Prof. Stéphane Bordas, Cardiff University, UK.
Prof. Dr.-Ir. René de Borst, Glasgow University, UK.
Prof. John Dolbow, Duke University, USA.
Prof. Armando Duarte, University of Illinois at Urbana-Champaign, USA.
Dr. Marc Duflot, CENAERO, Belgium.
Prof. Eugenio Giner Maravilla, UP Valencia, Spain.
Prof. Peter Hansbo, Jönköping University, Sweden.
Prof. Patrick Laborde, Institut de Mathématiques de Toulouse, France.
Prof. Bertrand Maury, Université Paris XI, France.
Prof. Nicolas Moës, Ecole Centrale de Nantes, France.
Prof. Toshio Nagashima, Sophia University, Japan.
Dr. Angelo Simone, TU Delft, The Netherlands.
Prof. Natarajan Sukumar, University of California Davis, USA.
Prof. Dr.-Ing. Andreas Zilian, Université du Luxembourg, Luxembourg.

Plenary lectures

- Prof. Dr.-Ir. René de Borst, Glasgow University, UK.
Prof. John Dolbow, Duke University, USA.
Prof. Peter Hansbo, Jönköping University, Sweden.
Prof. Bertrand Maury, Université Paris XI, France.
Prof. Nicolas Moës, Ecole Centrale de Nantes, France.
Prof. Giulio Ventura, Politecnico di Torino, Italy.
Prof. Dr.-Ing. Andreas Zilian, Université du Luxembourg, Luxembourg.

Important dates

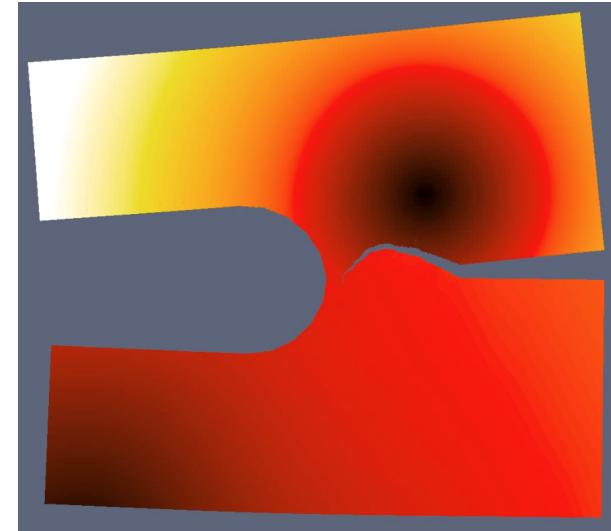
Deadline for submitting a one-page abstract	January 11, 2013
Notification of acceptance of abstracts	February 22, 2013
Deadline for submitting a four-page extended abstract (optional)	June 3, 2013
Deadline for early payment	June 3, 2013
XFEM 2013 conference	September 11-13, 2013

Location

The XFEM 2013 conference will take place at the conference center "Espace Tête d'or", 103 boulevard de Stalingrad, 69100 Villeurbanne, France.

GPS coordinates:

Latitude: N 45° 46' 36.9186" / 45.776922
Longitude: E 4° 51' 33.7278" / 4.859369



XFEM 2013
11-13 September, 2013, Lyon, France

How to register and submit contributions

Contributors to the field are invited to submit original research contributions in the area of partition of unity enrichment for finite element and related methods. Submission of contributions and conference registration should be performed electronically via the conference website.

Instruction for authors and one page abstract templates are available on the conference website.

<http://xfem2013.sciencesconf.org>