An ECCOMAS Thematic Conference

CFRAC 2015 is one of the Thematic Conferences of the European Community on Computational Methods in Applied Sciences (ECCOMAS) and it has been promoted by the European Committee in Solids and Structural Mechanics (ECSSM) of ECCOMAS.

For further information on ECCOMAS visit: www.eccomas.org
CFRAC 2015 is also an IACM Special Interest Conference. More information about IACM in: www.iacm.info

Co-organized by :

- Computational Structural Mechanics Association (CSMA), France
- École Normale Supérieure de Cachan, Cachan, France

Supporting organizations

- European Community on Computational Methods in Applied Sciences (ECCOMAS)
- International Association for Computational Mechanics (IACM)

Location

The conference will take place at the Ecole Normale Supérieure de Cachan, 61 avenue du président Wilson, 94230 Cachan, France. It can be easily reached by metro (RER line B, stop at Bagneux) followed by 15 minutes walk. The attendees should book their hotel in Paris to benefit from the city.

Registration fees

The regular (delegate) registration fee covers admission to all scientific sessions, conference proceedings, coffee breaks. The reduced (student) registration fee does NOT cover the conference dinner.

	Early	Late
Delegates	490 €	590 €
Students	290 €	350 €

Important dates

Minisymposia proposals:	30 September 2014
Deadline for presenting a one page abstract:	31 January 2015
Notification of acceptance:	28 February 2015
Deadline for speaker registration and early registration/payment:	15 March 2015
Corrected/updated abstracts:	30 April 2015

Conference secretariat

Secretariat – contact: Mrs. Lydia Matijevic
Phone: (33) 1 47 40 24 02
e-mail: matijevic@lmt.ens-cachan.fr

Website – contact: Mr. Cédric Cheveaux
Phone: (33) 1 47 40 21 90
e-mail: cedric.cheveaux@ens-cachan.fr

Social Program

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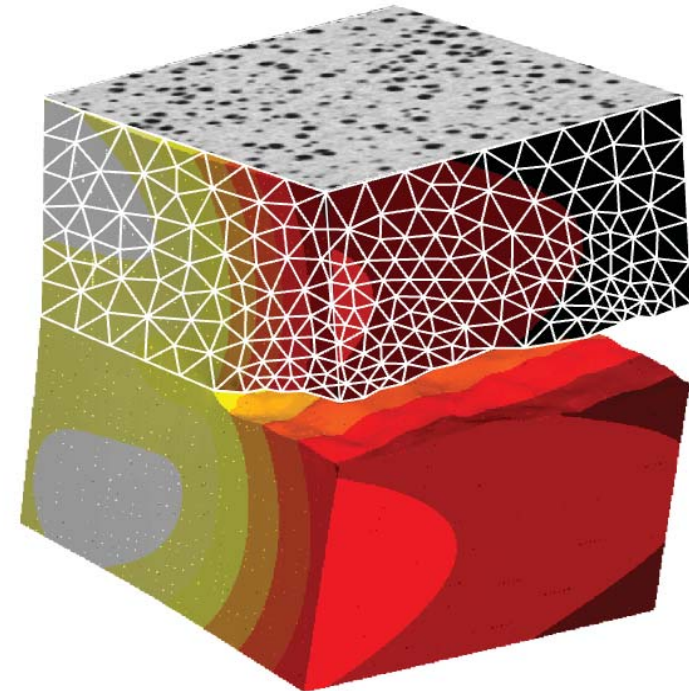

http://cfrac2015.sciencesconf.org/

CFRAC 2015

IV International Conference on Computational Modeling of Fracture and Failure of Materials and Structures

3-5 June 2015, Cachan, France

An IACM Special Interest Conference

Objectives

Designers of engineering structures must answer to ever increasing requests on performance in terms of safety, reliability, durability, low cost and low energy consumption. As new materials and new applications arise, traditional design rules and conventional testing methods become insufficient or inapplicable, which strengthens the role of computational methods in the design process. Numerical tools can accelerate the development of new products and their optimization.

The aim of the conference is to gather academic researchers and industrial partners involved in development and application of numerical procedures for fracture and failure simulation of materials and structures, in an effort to facilitate the exchange of ideas in topics of mutual interest and to serve as a platform for establishing links among research groups in Europe and worldwide.

Conference Topics

- Algorithms for crack propagation and evolving discontinuities
- Continuum damage mechanics
- Coupled experimental-computational identification
- Ductile and large deformation fracture
- Dynamic fracture
- Failure mechanisms in forming processes
- Finite elements with embedded strong discontinuities
- Fracture of composites
- Fracture of nano-structures
- Fragmentation
- Transition from damage to fracture
- Interaction of fracture with heat and moisture transport
- Interpolation enrichments capturing strong discontinuities
- Micro-cracking
- Multi-scale analysis for cracks
- Objective description of localized strain, regularization methods
- Transition from damage to fracture

Conference Chairmen

O. Allix, École Normale Supérieure de Cachan, France

N. Moës, École Centrale de Nantes, France

X. Oliver, Universitat Politècnica de Catalunya, Spain

M. Jirásek, Czech Technical University in Prague, Czech Republic

Local Organizing Committee

E. Baranger, A. Benallal, P.-A. Boucard, F. Gatuingt, P. Gosselet, P.-A. Guidault, F. Hild, F. Ragueneau, S. Roux

International Advisory Committee

J. Alfaiate, Instituto Superior Técnico and ICIST, Portugal
P.-O. Bouchard, CEMEF, France
P.P. Camanho, Universidade do Porto, Portugal
J. César de Sá, Universidade do Porto, Portugal
A. Combescure, LaMCoS, INSA de Lyon, France
I. Carol, Universitat Politècnica de Catalunya, Spain
F. Gatuingt, LMT, ENS de Cachan, France
J.C. Gálvez, Universidad Politécnica de Madrid, Spain
M. Geers, TU Eindhoven, Netherlands
S. Hallett, University of Bristol, United Kingdom
A. E. Huespe, Universidad Nacional del Litoral, Argentina
M. Kaliske, TU Dresden, Germany
S. Loehnert, Leibniz Universität Hannover, Germany
P. Massin, LAMSID-EDF, France
C. Miehe, Universität Stuttgart, Germany
J.-F. Molinari, EPFL, Switzerland
J. Ozbolt, Universität Stuttgart, Germany
M. Ortiz, Caltech, USA
A. Pandolfi, Politecnico di Milano, Italy
Ph. Pasquet, Consultant, France
R. Peerlings, TU Eindhoven, Netherlands
U. Perego, Politecnico di Milano, Italy
G. Pijaudier-Cabot, Université de Pau, France
J.-P. Ponthot, LTAS, Université de Liège, Belgium
J. Remmers, TU Eindhoven, Netherlands
J. Réthoré, LaMCoS, INSA de Lyon, France
S. Roux, LMT, ENS de Cachan, France
K. Willam, University of Houston, USA
P. Wriggers, Leibniz Universität Hannover, Germany

Confirmed Plenary Speakers

C. Comi, Politecnico di Milano, Italy
C. Miehe, Universität Stuttgart, Germany
M. Ortiz, California Institute of Technology, USA
K. Ravi-Chandar, University of Texas, USA
E. Van der Giessen, University of Groningen, Nederlands

List of Accepted Minisymposia

- **Advanced finite element technology for discontinuities and evolving interfaces,** J. Alfaiate (Instituto Superior Tecnico, Portugal)
- **Advances in the Experiment-Modeling Dialog,** J. Réthoré (LaMCoS, France), Stéphane Roux (ENS Cachan, France)
- **Cracking due to coupled processes, including durability mechanics and hydraulic fracture,** I. Carol (UPC Barcelona, Spain), K. Willam (University of Houston, USA)
- **Ductile fracture, modeling of shear bands and necking,** P.-O. Bouchard (CEMEF, France), J. César de Sá (U. of Porto, Portugal), R. Peerlings (TU Eindhoven, Netherlands)
- **Dynamic fracture, fragmentation and impact,** A. Combescure (INSA Lyon, France), J. Ozbolt (U. of Stuttgart, Germany)
- **Fracture and contact, fretting, cohesive interface models,** F. Gatuingt (ENS Cachan, France), J.-F. Molinari (EPFL, Switzerland)
- **Fracture and damage of composites and laminates,** P.P. Camanho (U. of Porto, Portugal), S. Hallett (U. of Bristol, United Kingdom), J. Remmers (TU Eindhoven, Netherlands)
- **Fracture of thin structures,** P. Areias (Universidade de Évora, Portugal)
- **Industrial applications,** J.C. Gálvez (Universidad Politécnica de Madrid, Spain), C. Huchette (ONERA, France), P. Massin (LAMSID-EDF, France), Ph. Pasquet (Consultant, France)
- **Innovative trends and applications in fracture mechanics,** O. Allix (ENS Cachan, France), M. Jirásek (Czech Technical University in Prague, Czech Republic), N. Moës (ECN Nantes, France), X. Oliver (UPC Barcelona, Spain)
- **Modeling of cutting, puncturing, blanking and similar processes,** U. Perego (Politecnico di Milano, Italy), J-P. Ponthot (LTAS, Belgium)
- **Multi-scale analysis,** M. Geers (TU Eindhoven, Netherlands), A. E. Huespe (Universidad Nacional del Litoral, Argentina), S. Loehnert (U. of Hannover, Germany), X. Oliver (UPC Barcelona, Spain), P. Wriggers (U. of Hannover, Germany)
- **Nonlocal damage models and other regularized approaches and Transition from damage to fracture,** M. Jirásek (Czech Technical University in Prague, Czech Republic), C. Miehe (U. of Stuttgart, Germany), N. Moës (ECN Nantes, France)
- **Quasi-brittle failure with applications to concrete and fiber-reinforced concrete,** I. Carol (UPC Barce-Iona, Spain), G. Pijaudier-Cabot (U. of Pau, France)
- **Theory of fracture, crack propagation criteria and crack tracking algorithms,** M. Ortiz (Caltech, USA), A. Pandolfi (Politecnico di Milano, Italy)
- **Uncertainty modeling in failure analysis,** M. Kaliske (TU Dresden, Germany)