

X-DMS 2015: eXtended Discretization Methods

XFEM, GFEM, Non-Conforming, Patches and Non-Standard Finite Elements

9-11 September 2015 - Ferrara, Italy

<http://x-dms2015.sciencesconf.org>

x-dms2015@sciencesconf.org

Secretariat

CFR Ufficio Convegni e Attività Formative
email: convegni@unife.it

ECCOMAS and IACM support

X-DMS 2015 is one of the Thematic conferences of the European Community on Computational Methods in Applied Sciences (ECCOMAS): www.eccomas.org

X-DMS 2015 is also a Special Interest Conference of the International Association for Computational Mechanics (IACM): www.iacm.info

About Ferrara

Lying in the middle of the Po Valley, Ferrara still has the atmosphere of the past, which blends in harmoniously with the lively atmosphere of the present. Ferrara's most famous image is certainly that of its grand Renaissance, the age of splendour of the Estense court, which has left indelible signs everywhere: in the colossal Addizione Ercolea project, in the impressive pictorial cycles belonging to the Quattrocento and Cinquecento and in the Last Judgement by Bastianino. From 1995 on, UNESCO has included the historical centre of Ferrara in the list of World Cultural Heritage as a wonderful example of a town planned in the Renaissance and still keeping its historical centre intact.

The town planning criteria expressed in Ferrara had a deep influence on the progress of town planning in the following centuries (<http://www.ferraterraacqua.it/en>).

Registration Fees

Registration fees are in Euros. Early registration applicable if paid before June 1, 2015.

	Early	Late
Delegates	550 €	650 €
Students	320 €	400 €

The fees will include conference proceedings, attendance to all scientific sessions and coffee breaks. Delegate fee includes conference social dinner.

Supporting Organizations



Università di Ferrara
Politecnico di Torino
ECCOMAS
IACM

GIMC
SIMAI
GNFM
AIMETA
MOX - Politecnico di Milano



Thematic Conference

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How to register and submit contributions

Contributors to the field are invited to submit original research contributions in the area of the conference topics. Submission of contributions and conference registration should be performed electronically via the conference website. Instruction for authors and one page abstract template are available on the conference website.

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Objectives

The last decade has seen an increased interest of the computational mechanics and numerical analysis communities in expanding classical discretization methods, like finite elements. A variety of techniques aimed at improving the overall computational efficiency by simplifying the discretization of the domains and accounting for special features of the problem directly in the approximation space have been developed. These efforts have been very fruitful, with a vast variety of new ideas being introduced and consolidated by new research results. A partial and non-exhaustive list of all these methods may include the partition of unity methods (Meshfree and XFEM/GFEM to recall the most known), local/global non-intrusive coupling and patch methods, fictitious domain methods, strong discontinuity approaches for fracture mechanics and special treatments of interfaces. The common denominator of all these techniques is to account for features of the solution by suitably modifying the discretization procedure and/or the approximation space. X-DMS continues and replaces the successful X-FEM conference cycle and aims at including a wider variety of methodologies coming from different areas of computational mechanics and numerical analysis. This new conference cycle intends to gather all scientists working on these techniques so to foster the exchange of ideas among different approaches and discuss about open issues and their possible solution.

Conference Topics

The conference topics include fundamental research, applications and computational studies devoted to the progress of extended and specialized discretization methods such as, but not limited to:

- Partition of Unity methods (Meshfree, XFEM/GFEM);
- Patch Methods;
- Fictitious Domain Methods;
- Strong Discontinuity Approaches (SDA);
- Local/Global Non-Intrusive Coupling;
- Finite Cell Methods;
- Multiscale Discretization;
- Special techniques for static and evolving interfaces;
- Crossover approaches, such as integration of PUFEM with isogeometric method.

Important dates

The conference organization allows for both open scientific sessions and minisymposia. The schedule and deadlines are as follows:

Opening of minisymposia proposals	September 1, 2014
Deadline for minisymposia proposals	November 2, 2014
Minisymposia acceptance notification	December 23, 2014
Opening of abstract submissions	January 1, 2015
Deadline for abstract submissions	March 29, 2015
Notification of acceptance of abstracts	April 30, 2015

Location

The conference will take place in the historical setting of Palazzo Tassoni Estense, owned by the University of Ferrara.
 Address: Via della Ghiara, 36 - 44121 Ferrara, Italy