An ECCOMAS Thematic Conference

This workshop 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**

It is also an IACM Special Interest Conference. More information about IACM in: **www.iacm.info**

Registration fees

The registration fees for attendees (including proceedings, lunches, coffee breaks, reception and banquet) with early registration applicable if received before **Sept. 15, 2015** are:

	Early	Late
Delegates	520 €	620 €
Students	320 €	380 €

Correspondance and registration

All queries concerning the scientific program should be sent by email to:

Pierre Ladevèze, **ladeveze@lmt.ens-cachan.fr**
(with subject: workshop ROM2015)

For registration, contact the workshop secretariat:

Lydia Matijevic, **rom2015@sciencesconf.org**
LMT-Cachan
61 avenue du Président Wilson, 94235 Cachan, France
phone: (33) 1 47 40 24 02

or go to the website of the workshop:

http://rom2015.sciencesconf.org

Location and accomodation

The conference will take place on the campus of the Ecole Normale Supérieure de Cachan, located 4 km south of Paris. A suburban train reaches the center of Paris in 18 minutes and the same line serves the Roissy-Charles de Gaulle and Orly international airports.

Of course, Paris offers many hotels at various rates. All hotel reservations are to be made by the participants themselves. Two hotels are located within walking distance (15 min):

Hôtel Comfort
2 rue Mirabeau
94230 CACHAN
Phone: (33) 1 45 47 18 00
Fax: (33) 1 45 47 01 81

Hôtel Alixia
82 avenue Général Leclerc
94230 BOURG LA REINE
Phone: (33) 1 46 60 56 56
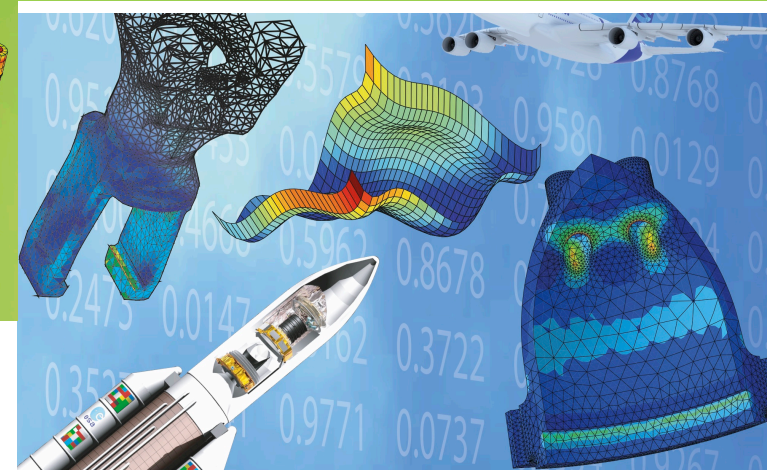Fax: (33) 1 46 60 57 34
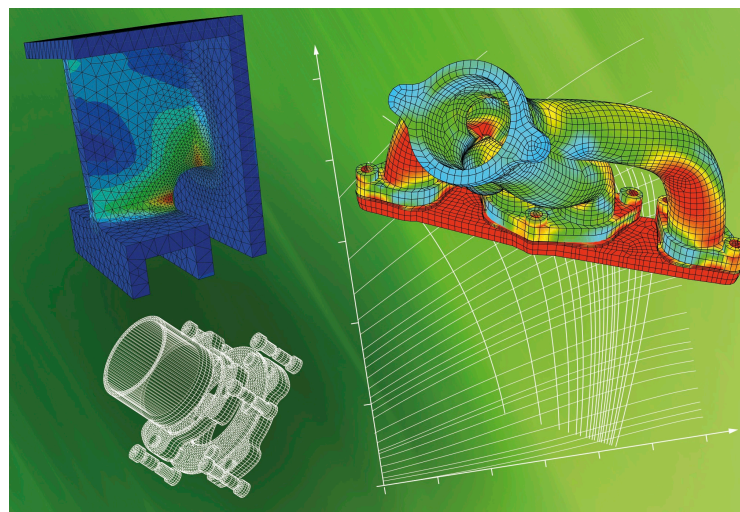
Supporting organizations

Workshop

Reduced Basis, POD and PGD Model Reduction Techniques

Cachan, France - November 4-5-6, 2015

An IACM Special Interest Conference

http://rom2015.sciencesconf.org

co-organized by
LMT-Cachan (ENS Cachan/CNRS/PRES UniverSud Paris)
GeM Institute (Centrale Nantes/CNRS/Nantes University)

Reduced Basis, POD and PGD Model Reduction Techniques

Scope

After Cachan 2011 and Blois 2013, we are planning to organize a new workshop devoted to recent advances in model reduction techniques and their potential impact in computational and prediction sciences, especially (but not only) in mechanical engineering. Practical focus will be on recent developments in Reduced Basis (RB) approaches, Proper Orthogonal Decomposition (POD) and Proper Generalized Decomposition (PGD) methods for the numerical resolution of models involving partial differential equations. Other model size reduction methods are welcome in order to foster cross-fertilization of ideas and their synergy.

Mechanics, like other domains, continues to supply numerous engineering problems which, despite the impressive progress of computational simulation techniques, remain intractable today. RB, PGD and other model reduction methods are leading to a new generation of high-performance computational tools which provide solutions to engineering problems which are inaccessible to standard codes based on classical and well-established numerical techniques. This is a true breakthrough with a potential gain of several orders of magnitude.

The workshop is intended to be a meeting ground for the various contributors, including mechanicians, applied mathematicians and other researchers and engineers involved in testing and computation. The Workshop should provide answers to such questions as:

- What are the benefits, but also the drawbacks, of RB and POD/PGD methods?
- What engineering challenges, especially in mechanics, could be addressed in the near future?
- What are the key scientific issues?

Main topics

- Advances in RB, POD and PGD methods
- Convergence analysis
- Verification and adaptive approaches
- Multiscale and multiphysics problems
- Uncertainty quantification and propagation
- Quasi-real-time simulation and control, optimzation and design
- Engineering applications

Co-chairmen

P. Ladevèze — LMT-Cachan
ENS Cachan/CNRS/PRES Universud Paris
F. Chinesta — GeM Institute
Centrale Nantes/CNRS/Nantes University

Local organizing and scientific committee

P.-A. Boucard, L. Chamoin, F. Chinesta, C. Farhat, D. Guedra-Degeorges, P. Ladevèze, Y. Maday, D. Néron, A. Nouy

Advising scientific committee

S. Andrieux	EDF
C. Farhat	Stanford University
D. Guedra-Degeorges	AIRBUS Group Innovations
A. Huerta	Universitat Politècnica de Catalunya
T. Hughes	University of Texas at Austin
Y. Maday	UPMC
H. Matthies	Technical University of Braunschweig
A. Patera	Massachusetts Institute of Technology
T. Oden	University of Texas at Austin
E. Onate	Universitat Politècnica de Catalunya
A. Quarteroni	EPFL
B. Schrefler	University of Padua
P. Wriggers	Leibniz Universität Hannover
G. Yagawa	University of Tokyo

Speakers and attendees

The program includes around 12 invited talks from specialists coming from industry and academia aiming to define the state of the art and new needs and opportunities; around 30 oral presentations concerning recent advances and finally some sessions devoted to poster presentations followed of informal discussions. It is important to recall that no parallel sessions are envisaged.

Important date

Deadline for extended abstracts (1 page): **July 15th, 2015.**