

Forewords

This issue of ESAIM proceedings is composed of articles written by some of the invited speakers of the CANUM 2010 conference that was held in Carcans-Maubuisson, France from May 31 to June 4th, 2010, see <http://smai.emath.fr/canum2010/>.

The invited speakers were Davide Ambrosi (Politecnico di Milano, Italy), Virginie Bonnaillie-Noël (CNRS, Université de Rennes), Sergey Gavriluk (Université Aix-Marseille III), Élie Hachem (Mines ParisTech, Sophia Antipolis), Fabio Nobile (Politecnico di Milano, Italy), Eric Cancès (École des Ponts Paris Tech & INRIA Rocquencourt), Yvon Maday (Université Pierre et Marie Curie) and Tim Warburton (Rice University, TX, USA). Their talks have covered a wide range of topics, from the mathematical and computational problems raised by biology, the modelisation issues for compressible solids, the effect of small geometrical perturbations on the solution of elliptic problems to scientific computation on GPUs and mesh adaptation. The five first speakers have participated to this issue.

The conference has also been organised around several minisymposia: asymptotic methods in fluid mechanics by D. Gérard-Varet (ENS), the modelisation of respiratory system by Céline Grandmont (INRIA Rocquencourt and Université Pierre et Marie Curie), stochastic PDEs by Anne de Bouard (École Polytechnique), Image processing by Stéphane Labbé (Université Joseph Fourier). Since 2009, GAMNI SMAI and AFM (Association Française de Mécanique) have decided to organise common workshops. The CANUM has hosted two joint workshops, one about image processing and identification, by Marc Bonnet (CNRS and ENSTA Paris Tech) and Houssein Haddar (INRIA and École Polytechnique), the second one about Model Reduction, organised by Yvon Maday and Francesco Chinesta (École Centrale de Nantes, IUF). The last minisymposium is the traditional “Industry day”, that year organised by Vincent Couailler (ONERA) and Vincent Perrier (INRIA).

This conference has gathered about 200 participants in a very relaxed atmosphere, as usual for the CANUM, but leading also to very productive scientific discussions.

It is time to thank the scientific committee of the conference: Sylvia Bertoluzza (University of Pavia), Frédéric Coquel (École Polytechnique), Stéphane Cordier (Université d’Orléans), Georges-Henri Cottet (Université Joseph Fourier), Anne De Bouard (Ecole Polytechnique), Emmanuel Grenier (ENS de Lyon), Volker Merkmann (Technische Universität Berlin), Jean-François Remacle (Université catholique de Louvain) and Didier Smets (Université Paris VI).

The local organisation committee has also to be warmly thanked: Michel Bergmann, Mathieu Colin, Mario Ricchiuto, Olivier Saut and Lisl Weynans, all from INRIA Bordeaux Sud-Ouest or the University of Bordeaux.

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The editors

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