

CALL FOR PAPER <http://www.ncmip.org/2011/>

Scope. The New Computational Methods for Inverse Problems (NCMIP) Workshop focuses on the recent advances in the resolution of inverse problems. Inverse problems appear in numerous scientific areas such as geophysics, biological and medical imaging, material and structure characterization, electrical, mechanical and civil engineering, and finances... The resolution of inverse problems aims at estimating the parameters of the observed system or structure from data collected by an instrumental sensing or imaging device. Its success firstly requires the collection of relevant observation data. It also requires accurate models describing the physical interactions between the instrumental device and the observed system, as well as the intrinsic properties of the solution itself. Finally, it requires the design of robust, accurate and efficient inversion algorithms. Advanced sensor arrays and imaging devices provide high rate and numerous data; in this context, the efficient resolution of the inverse problem requires to jointly develop new models and inversion methods, taking computational and implementation aspects into account. During the NCMIP workshop, researchers will have the opportunity to bring to light and share new techniques and results in the field of inverse problems.

Workshop topics. Topics of interest include, but are not limited to the following items: Algorithms and computational aspects of inversion, Bayesian estimation, Kernel methods, Learning methods, Convex optimization, Free discontinuity problems, Metamodels, Proper orthogonal decomposition, Reduced models for the inversion, Non-linear inverse scattering, Image reconstruction and restoration, Applications (bio-medical imaging, non-destructive evaluation)

Important dates:

Paper Submission Deadline: February 20, 2011

Notification of Acceptance: April 20, 2011

Camera Ready Deadline: May 1, 2011

Conference Date: May 16, 2011

Workshop Chairs:

Laurent Fribourg, LSV Laboratory, CNRS, ENS Cachan, France

Pierre-Yves Joubert, SATIE Laboratory, CNRS, ENS Cachan, France

Technical Program Committee:

Alexandre Baussard, E3I2 Laboratory, ENSIETA, France

Laure Blanc-Féraud, I3S laboratory and INRIA Nice Sophia-Antipolis, France

Jerôme Darbon, CMLA Laboratory, CNRS, ENS Cachan, France

Oliver Dorn, School of Mathematics, University of Manchester, UK.

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Marc Lambert, L2S Laboratory, CNRS, SupElec, University of Paris Sud XI, France

Ali Mohammad-Djafari, L2S Laboratory, CNRS, SupElec, University of Paris Sud XI, France

Christian Rey, LMT Laboratory, CNRS, ENS Cachan, University Pierre & Marie Curie, France

Plenary Speaker:

Dr. Anthony Quinn, Trinity College, University of Dublin, Ireland

Submission: Submitted papers should be between 4 and 6 pages, double column in the ACM conference format.

Publication and awards. Selected high-quality papers will be invited to Special Issues in several top ranked Journals. A Best Paper and Best Student Paper will be selected by peer reviews and will be acknowledged with awards presented during the social event. All papers (general conference and conference workshops) are eligible for both awards. Papers will appear in the **ACM Digital Library**.

Technical sponsorships. ACM - Sigmetrics, ANR, ENS - Cachan, Create-net, GdR-MACS, ICST, Institut Carnot, Institut Farman, Orange.