Call for Papers

MACIS 2011 - Fourth International Conference on Mathematical Aspects of Computer and Information Sciences

MACIS is a series of conferences where foundational research on theoretical and practical problems of mathematics for computing and information processing may be presented and discussed. MACIS also addresses experimental and case studies, scientific and engineering computation, design and implementation of algorithms and software systems, and applications of mathematical methods and tools to outstanding and emerging problems in applied computer and information sciences. Each conference focuses on two or three themes.

The themes for MACIS 2011 are:

- *Design and Analysis of Complex Systems*
- *Numeric and Symbolic Constraint Solving*
- *Cryptography and Coding Theory*

See below for a detailed list of topics.

SUBMISSION

Potential participants of MACIS 2011 are invited to submit extended abstracts (3-4 pages) or full papers describing their work to be presented at the conference. The submitted extended abstracts and full papers will be reviewed by members of the Program Committee (PC) for soundness and relevance to the conference. Submission of original research papers is encouraged, while published material and work in progress will also be considered for presentation at the conference. Electronic submissions are strongly preferred using EasyChair

or should be sent by e-mail as .pdf attachments to the PC Co-chair:
Dr. Ilias S. Kotsireas, e-mail: ikotsire@wlu.ca

Accepted extended abstracts and full papers will be printed for distribution at the conference. Authors of the extended abstracts and full papers accepted for presentation at the conference will be invited to submit their full and/or revised papers for publication in special issues of Mathematics in Computer Science (MCS) by Birkhäuser/Springer after the meeting. The submitted papers will be formally reviewed by PC members and external referees according to the refereeing procedure of MCS.

IMPORTANT DATES

Submission of papers/extended abstracts:	July 31, 2011
Notification of acceptance or rejection:	September 5, 2011
Conference taking place:	October 19-21, 2011
Deadline for full paper submission:	December 15, 2011

GENERAL CHAIRS

Dongming Wang (Université Pierre et Marie Curie - CNRS, France)
Zhiming Zheng (Beihang University, China)

LOCAL COMMITTEE CHAIR

Meng Zhou (Beihang University, China)

PROGRAM COMMITTEE

Hirokazu Anai (Fujitsu Laboratories Ltd / Kyushu University, Japan)
Hoon Hong (North Carolina State University, U.S.A.)
Deepak Kapur (University of New Mexico, U.S.A.)
Ilias Kotsireas (Wilfrid Laurier University, Canada), Co-chair
Laura Kovacs (Vienna University of Technology, Austria)
Dongdai Lin (Institute of Software, Chinese Academy of Sciences, China)
Edgar Martinez Moro (University of Valladolid, Spain)
Stefan Ratschan (Czech Academy of Sciences, Czech Republic), Co-chair
Nathalie Revol (INRIA, France)
Enric Rodríguez-Carbonell (Technical University of Catalonia, Spain)
Sriram Sankaranarayanan (University of Colorado Boulder, U.S.A.)
Thomas Sturm (Max Planck Institute for Computer Science, Germany)
Bican Xia (Peking University, China)
Lihong Zhi (Institute of Systems Science, Chinese Academy of Sciences, China)

PUBLICITY CHAIR

Georg Regensburger (INRIA Saclay, France)

TOPICS OF INTEREST INCLUDE

- *Design and Analysis of Complex Systems*

Software systems; hardware systems; control systems; biological systems; physical systems; dynamical systems; hybrid (e.g. cyber-physical) systems; nondeterminism/uncertainty; mathematical modeling; simulation; formal verification; systems/controller synthesis; computational techniques and tools

- *Numeric and Symbolic Constraint Solving*

Systems of equations; quantifier elimination and decision procedures; (global) optimization; differential equations; numeric, symbolic, interval and hybrid solution techniques; application, especially in systems analysis and design; proof obligations in formal verification

- *Cryptography and Coding Theory*

Error-correcting codes; decoding algorithms; related combinatorial and complexity problems; algorithmic aspects of cryptology; symmetric cryptology; public-key cryptography; cryptanalysis; computational and algebraic paradigms in postquantum cryptology; discrete mathematics and algorithmic tools related to coding and cryptography; boolean functions; sequences; computation in finite fields and related algebraic systems.

CONFERENCE WEBSITE

http://macis2011.cc4cm.org/