



MFCs 2010

FIRST CALL FOR PAPERS
The 35th International Symposium on
Mathematical Foundations of Computer Science

August 23-27, 2010, Brno, Czech Republic

<http://mfcs12010.fi.muni.cz/>



The series of MFCs symposia, organized in rotation by Poland, Slovakia, and the Czech Republic since 1972, has a long and well-established tradition. The symposia encourage high-quality research in all branches of theoretical computer science. Their broad scope provides an opportunity to bring together researchers who do not usually meet at specialized conferences. Quality papers presenting original research on theoretical aspects of computer science are solicited.

The 35th International Symposiums on Mathematical Foundations of Computer Science (MFCs 2010) is organized in parallel with the 19th EACSL Annual Conferences on Computer Science Logic (CSL 2010). The federated MFCs & CSL 2010 conference has common plenary sessions and social events, but the technical programme and the proceedings are prepared independently. The main conferences are accompanied by a number of satellite workshops on more specialized topics (see the other page).

Principal topics of interest include (but are not limited to): *algorithmic game theory, algorithmic learning theory, algorithms and data structures (incl. sequential, parallel, distributed, approximation, graph, network, on-line, optimization), automata, grammars and formal languages, bioinformatics, complexity (structural and computational), computational geometry, computer-assisted reasoning, concurrency theory, cryptography and security, databases and knowledge-based systems, formal specifications and program development, foundations of computing, logic in computer science, mobile computing, models of computation, networks (incl. wireless, sensor, ad-hoc), parallel and distributed computing, quantum computing, semantics and verification of programs, theoretical issues in artificial intelligence.*

Programme committee: Luca Aceto (*Reykjavik*), Jiří Adámek (*Braunschweig*), Christel Baier (*Dresden*), Patricia Bouyer-Decitre (*Cachan*), Sergio Cabello (*Ljubljana*), Witold Charatonik (*Wroclaw*), Jurek Czyzowicz (*Quebec*), Volker Diekert (*Stuttgart*), Rod Downey (*Wellington*), Fedor Fomin (*Bergen*), Gregory Gutin (*London*), Michel Habib (*LIAFA*), Edward A. Hirsch (*St. Petersburg*), Petr Hliněný (co-chair, *Brno*), Juraj Hromkovič (*Zurich*), Juhani Karhumäki (*Turku*), Ken-ichi Kawarabayashi (*Tokyo*), Petr Kolman (*Prague*), Daniel Král' (*Prague*), Rastislav Královič (*Bratislava*), Antonín Kučera (co-chair, *Brno*), Luděk Kučera (*Prague*), Madhavan Mukund (*Chennai*), Jean-Eric Pin (*Paris*), Alexander Rabinovich (*Tel Aviv*), Peter Rossmanith (*Aachen*), Davide Sangiorgi (*Bologna*), Vladimiro Sassone (*Southampton*), Helmut Seidl (*Munich*), Jiří Sgall (*Prague*), Daniel Štefankovič (*Rochester*), Colin Stirling (*Edinburgh*), Stefan Szeider (*Vienna*), Andrzej Tarlecki (*Warsaw*), Wolfgang Thomas (*Aachen*), Pawel Urzyczyn (*Warsaw*), Sue Whitesides (*Victoria*), James Worrell (*Oxford*), Shmuel Zaks (*Haifa*)

Submissions to MFCs must not exceed 12 pages (in Springer-Verlag's Lecture Notes style). If the authors believe that more details are essential to substantiate the main claims, they may include a clearly marked appendix that will be read at the discretion of the program committee. Simultaneous submissions of papers to any other conference with published proceedings or submitting previously published papers is not allowed. Only electronic submissions in the PDF format are accepted. Detailed information about the submission procedure will be available on the conference web page in due time. The proceedings will be published in Lecture Notes in Computer Science by Springer-Verlag.

Deadlines:

Abstract submission:	April 10, 2010
Full paper submission:	April 15, 2010
Notification:	May 28, 2010
Final version:	June 14, 2010

Contacts:

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For more and up-to-date information see the MFCs & CSL 2010 web site <http://mfcs12010.fi.muni.cz/>



MFCS 2010

MFCS & CSL 2010 SATELLITE WORKSHOPS

August 21-22, August 27-29, 2010, Brno, Czech Republic

<http://mfcs12010.fi.muni.cz/workshops/>



Workshop on Fixed Points in Computer Science *August 21–22*

Fixed points play a fundamental role in several areas of computer science and logic by justifying induction and recursive definitions. The aim of the workshop is to provide a forum for researchers to present their results to those members of the computer science and logic communities who study or apply the theory of fixed points. Previous workshops were held in Brno (1998, MFCS/CSL), Paris (2000, LC), Florence (2001, PLI), Copenhagen (2002, LICS (FLoC)), Warsaw (2003, ETAPS), Coimbra (2009, CSL).

Contacts: Luigi Santocanale
<http://www.lif.univ-mrs.fr/~lsantoca/fics2010/>

Theory and Algorithmic Aspects of Graph Crossing Number

August 21–22

The purpose of this workshop is to bring together researchers interested in the algorithmic aspects of graph crossing number problems. During the last ten years or so, we have witnessed a growing interest in complexity and algorithmic issues around crossing numbers. We see this workshop as an opportunity to reflect on these developments, with an emphasis on the interplay between the theoretical and the algorithmic aspects of graph crossing numbers.

Contacts: Gelasio Salazar, Petr Hliněný, Drago Bokal
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Program Extraction and Constructive Proofs *August 21*

This workshop is to be held on the occasion that Helmut Schwichtenberg will be turning emeritus in September 2010. The workshop will focus on recent developments in Applied Proof Theory and Constructive Mathematics. The two fields have a substantial common interest, namely the exploration of the computational content of mathematical and logical principles. It is the aim of this workshop to bring active researchers from both fields together and exchange ideas.

Contacts: Ulrich Berger, Hannes Diener, Peter Schuster
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Classical Logic and Computation *August 22*

This workshop aims to support a fruitful exchange of ideas between the various lines of research on Classical Logic and Computation. Topics of interest include, but are not limited to: version of lambda calculi adapted to represent classical logic; design of programming languages inspired by classical logic; cut-elimination for classical systems; proof representation and proof search for classical logic; translations of classical to intuitionistic proofs; constructive interpretation of non-constructive principles; witness extraction from classical proofs; constructive semantics for classical logic; case studies.

Contacts: Ulrich Berger
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Randomized and Quantum Computation *August 22*

The aim of this workshop is to discuss recent theoretical results and experiments related to randomized and quantum algorithms. Topics of interest include, but are not limited to: random walk, quantum walk, probabilistic and quantum finite automata, quantum automata with mixed states, description of probabilistic and quantum finite automata by means of second order logics.

Contacts: Rusins Freivalds
Rusins.Freivalds@mii.lu.lv

Young Researchers Forum *August 21–22*

The aim of the event is to provide a forum for doctoral students and other young researchers to present and discuss their recently published/submitted results or ongoing work in the field of theoretical computer science (in a broad sense). Senior researchers are warmly welcome to auditorium and discussions.

Contacts: Jan Strejček
<http://mfcs12010.fi.muni.cz/workshops/yrf>

YuriFest: Symposium on Logic in Computer Science celebrating Yuri Gurevich's 70th birthday *August 22*

This symposium is being held in honor of Yuri Gurevich's seventieth birthday. Gurevich's interests have spanned a broad spectrum of logic and computer science, including decision procedures, the monadic theory of order, abstract state machines, formal methods, foundations of computer science, security, and much more. Many of these will be reflected in the topics of the day. A liber amicorum is being planned.

Contacts: Nachum Dershowitz
<http://www.cs.tau.ac.il/~nachumd/YuriFest.html>

International Workshop on Mathematical Foundations of Constraint Programming

August 28

This workshop encourages the submission of interesting theoretical and mathematical results related to constraints. Topics include (but are not limited to): The relationship between classes of CSPs and other problems; complexity and expressivity of different constraint representations; complexity and expressivity in the context of propagation; graphs and hypergraphs, relational structures; tractability of CSPs.

Contacts: Stanislav Živný
<http://zivny.cz/mfcp10/>

International Workshop on Reachability Problems

August 27–29

Reachability Problems is specifically aimed at gathering together scholars from diverse disciplines and backgrounds interested in reachability problems that appear in algebraic structures, computational models, hybrid systems, and verification. Topics of interest include (but are not limited to): Reachability problems in infinite state systems, rewriting systems, dynamical and hybrid systems; reachability problems in logic and verification; reachability analysis in different computational models, counter/ timed/ cellular/ communicating automata; Petri-Nets; computational aspects of algebraic structures; predictability in iterative maps and new computational paradigms.

Contacts: Igor Potapov, Antonín Kučera
<http://www.csc.liv.ac.uk/~rp2010/>

Games and Probabilistic Models in Formal Verification

August 28

Formal methods are widely used in development and analysis of complex systems such as aircraft flight control systems, controllers of industrial processes, biological processes etc. These systems usually exhibit features such as randomness, interaction and parallelism. Probabilistic and game theoretic models are especially well suited for capturing these features and therefore there is a need to develop such models and methods for their analysis. The goal of this workshop is to bring together researchers with interest in probabilistic and game theoretic methods in formal verification.

Contacts: Tomáš Brázdil, Krishnendu Chatterjee
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Mathematical Foundations of Fuzzy Logics *August 28*

Mathematical fuzzy logic is a sub-discipline of mathematical logic studying the notion of comparative truth. We encourage high quality submissions in all areas of mathematical fuzzy logic, including algebraic Semantics, proof systems, game theory, first and higher order fuzzy logics, and applications.

Contacts: Agata Ciabattoni
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International Workshop on Categorical Logic *August 28–29*

The aim of the workshop is to bring together researchers with a common interest in categorical logic and its applications.

Contacts: Jiří Rosický
<http://mfcs12010.fi.muni.cz/workshops/catlog>

Logic, Combinatorics and Computation *August 28–29*

This workshop focuses on topics concerning Combinatorics and Logic, and the associated computational aspects. All lectures will be on invitation. Some typical topics: Logical expression of graph properties, graph decompositions, graph transform, and related notions. Logical expression of properties of matroids, isotropic systems, graph drawings and knots. Counting and enum. problems. Polynomials associated with graphs. Combin. in games, 0/1 laws and randomized computations. Constraint satisf. problems and other logically based alg. problems. Finite descriptions of infinite structures. Proof complexity.

Contacts: Bruno Courcelle, Petr Hliněný, Johann A. Makowsky
<http://www.labri.fr/perso/courcell/LCC.html>

Parametrized Complexity of Computational Reasoning

August 29

This workshop aims to support a fruitful exchange of ideas between the research on Parameterized Complexity on one side and the research on various forms of comput. reasoning (such as Nonmonotonic, Probabilistic, and Constraint-based reasoning) on the other. Topics of interest include but are not limited to: multivariate analysis of reasoning problems, kernelization and preprocessing, fixed-parameter tractability and hardness, backdoors and decompositions.

Contacts: Stefan Szeider
<http://www.szeider.net/>