

VOUZZAVEDIBISAR

International Conference MCU 2007

Jérôme Durand-Lose

PARTICIPATION

POSTER

ACCEPTED PAPERS

International Conference

MACHINES, COMPUTATIONS AND UNIVERSALITY

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ORLEANS, FRANCE

SEPTEMBER, 10-14, 2007

Organizing institutions:

LIFO, University of Orleans, France
LITA, University Paul Verlaine - Metz, France

<http://www.univ-orleans.fr/lifo/Manifestations/MCU07/>

TOPICS :

Digital computation (fundamental classical models) :

Turing machines, register machines, word processing (groups and monoids), other machines.

Digital models of computation :

cellular automata, other automata, tiling of the plane, polyominoes, snakes, neural networks, molecular computations,

Analog and Hybrid Computations :

BSS machines, infinite cellular automata, real machines, quantum computing

In all these settings :

frontiers between a decidable halting problem and an undecidable one in the various computational settings

minimal universal codes:

size of such a code, namely, for Turing machines, register machines, cellular automata, tilings, neural nets, Post systems, ...

computation complexity of machines with a decidable halting problem as well as universal machines,

connections between decidability under some complexity class and completeness according to this class,

self-reproduction and other tasks,

universality and decidability in the real field

PROGRAM COMMITTEE :

Erzsebet CSUHAI-VARJU, Hungarian Academy of Sciences, Hungary

Jerome DURAND-LOSE, University of Orleans, France, co-chair

Angsheng LI, Institute of Software, Chinese Academy of Sciences, Beijing, China

Maurice MARGENSTERN, LITA, University of Metz, France, co-chair

Jean-Yves MARION, LORIA, Ecole des Mines de Nancy, France

Gheorghe PAUN, Romanian Academy, Bucharest, Romania

Yurii ROGOZHIN, Institute of Mathematics, Chisinau, Moldova

Grzegorz ROZENBERG, University of Leiden, The Netherlands

Jiri WIEDERMANN, Academy of Science, Czech Republic

Damien WOODS, University College, Cork, Ireland

ORGANISING COMMITTEE :

Jerome DURAND-LOSE, University of Orleans, France, chair

INVITED SPEAKERS :

- Andrew ADAMATZKY, University of Bristol, UK
Encapsulating Reaction-diffusion Computers
- Olivier BOURNEZ, LORIA, INRIA-Lorraine, France
On the Computational Capabilities of Several Models
- Mark BURGIN, UCLA, Los Angeles, USA
Universality, Reducibility, and Completeness
- Manuel CAMPAGNOLO, Lisbon University of Technology, Portugal
Using Approximation to Relate Computational Classes over the Reals
- Joel David HAMKINS, CUNY, New-York, USA
A Survey of Infinite Time Turing Machines
- Jarkko KARI, University of Turku, Finland
The Tiling Problem Revisited
- Pascal KOIRAN, Ecole Normale Supérieure de Lyon, France
Decision versus Evaluation in Algebraic Complexity
- Kenichi MORITA, University of Hiroshima, Japan
A Universal Reversible Turing Machine
- KG SUBRAMANIAN, Christian College of Chennai, India
P Systems and Picture Languages
- Klaus SUTNER, Carnegie Mellon University, Pittsburgh, USA
Information Hiding and Incompleteness

MCU/UMC'95, MCU'98 and MCU'2001 gave rise to TCS special issues on "Universal Machines and Computations": 168-2 (1996), 231-2 (2000) and 296-2 (2003). MCU'2004 gave rise to FI special issue on "Machines, Computations and Universality": 74 (to appear). The interest of computer scientists for the topics of the conference increased in the last years. New domains appeared, continuing them in a natural way. This explains why a regular scientific meeting on this topics must hold, each three years. And so, three years after MCU'2004, the turn of MCU'2007 comes.

CONFERENCE PROCEEDINGS :

Besides invited lectures, contributions are planned. The proceedings of the conference will be published in a volume of LECTURE NOTES IN COMPUTER SCIENCE which will be published a few months after the conference. As the LNCS volume will contain the proceedings of the conference, it will contain only talks and contributions which will be presented at MCU'2007.

Contributions should be submitted as 12 page papers with an extra page indicating the name of the author(s), his/her/their affiliation, e-mail and addresses as well as the title of the contribution, a list of key-words and a short abstract within 300 words. The submissions are required to follow LNCS style (see LNCS site).

Contributions must be submitted through the site of the conference given below. Submissions must be 12 pages long following LNCS format. Submissions must be processed via LaTeX 2e and they must be PostScript or .pdf files. Only non-encoded files will be accepted. Other formats will be rejected.

FI SPECIAL ISSUE :

A special issue of FUNDAMENTA INFORMATICAE devoted to "Universal Machines and Computations'V" will be published on the topics of the conference. A new call for paper for this issue will be launched just after MCU'2007. Invited papers and contributions presented to MCU'2007 will be able to enter the selection process to FI special issue provided that they are clearly different from the paper published in LNCS volume: either the FI submission is a substantial extended version of the LNCS published paper, or it contains significantly new results.

POSTER / OPEN SESSION:

We are planning to have a poster session and/or an open session. If you are interested in presenting some work in either form please contact one the PC chairs before July 31st at

jerome.durand-lose@univ-orleans.fr
margens@univ-metz.fr

ACCEPTED PAPERS:

Artiom ALHAZOV, Rudolf FREUND, Marion OSWALD, Sergey VERLAN
Partial Halting in P Systems Using Membrane Rules with
Permitting Contexts
Artiom ALHAZOV, Mario de Jesus PEREZ-JIMENEZ
Uniform Solution of QSAT using Polarizationless Active Membranes
Dorothea BAUMEISTER, Jorg ROTHE
Satisfiability Parsimoniously Reduces to the Tantrix(TM)
Rotation Puzzle Problem

Tommaso BOLOGNESI

Planar trivalent network computation

Jurgen DASSOW, Bianca TRUTHE

On the Power of Networks of Evolutionary Processors

Liesbeth De MOL

Study of Limits of Solvability in Tag Systems

John FISHER, Marc BEZEM

Query Completeness of Skolem Machine Computations

Hermann GRUBER, Markus HOLZER, Martin KUTRIB

More on the Size of Higman-Haines Sets: Effective Constructions

Artiom MATVEEVICI, Yurii ROGOZHIN, Sergey VERLAN

Insertion-Deletion Systems with One-Sided Contexts

Victor MITRANA, Juan CASTELLANOS, Florin MANEA, Luis Fernando MINGO LOPEZ

Accepting Networks of Splicing Processors With Filtered Connections

Frantisek MRAZ, Martin PLATEK, Friedrich OTTO

Hierarchical relaxations of the correctness preserving property for restarting automata

Turlough NEARY, Damien WOODS

Four small universal Turing machines

Hidenosuke NISHIO

Changing the Neighborhood of Cellular Automata

Alexander OKHOTIN

A simple P-complete problem and its representations by language equations

Olivier TEYTAUD

Slightly beyond Turing's computability for studying genetic programming

Hiroshi UMEMOTO

A Smallest Five-State Solution to the Firing Squad Synchronization Problem

Damien WOODS, Turlough NEARY

Small semi-weakly universal Turing machines

Jean-Baptiste YUNES

Simple New Algorithms which solve the Firing Squad Synchronization Problem: a 7-states $4n$ -steps solution

REGISTRATION:

Registration is open on the web site :

<http://www.univ-orleans.fr/lifo/Manifestations/MCU07/>

Category | Early registration | Late (after July, the 31st, 2007)

Full | 300 | 350

Student | 200 | 250

