

# Call For Papers

## Machines, Computations and Universality 2013

Zürich, Switzerland, September 9-12, 2013

Machines, Computations and Universality (MCU) 2013, the 6th conference in the MCU series, will be hosted at the University of Zürich on September 9-12, 2013.

### Scope

MCU explores computation in the setting of various discrete models (Turing machines, register machines, cellular automata, tile assembly systems, rewriting systems, neural models etc.) and analog and hybrid models (BSS machines, infinite time cellular automata, real machines, quantum computing etc.). There is particular (but not exclusive) emphasis given towards the following:

1. the search for frontiers between decidability and undecidability in the various models. (For example, what is the smallest number of pairs of words for which the Post correspondence problem is undecidable, or what is the largest state-symbol product for which the halting problem is decidable for Turing machines.)
2. the search for the simplest universal models (such as small universal Turing machines, universal rewriting systems with few rules, universal cellular automata with small neighborhoods and a small number of states, etc.)
3. the computational complexity of predicting the evolution of computations in the various models. (For example, is it possible to predict an arbitrary number of time steps for a model more efficiently than explicit step by step simulation of the model.)
4. universality and undecidability in continuous models of computation.

### Paper preparation and submission

Authors are invited to submit extended abstracts of no more than 12 pages via the EasyChair system at <https://www.easychair.org/conferences/?conf=mcu2013>. Submissions should contain original research that has not previously been published. Concurrent submissions to other conferences/journals is not permitted. Supplementary material that exceeds the 12 page limit will be considered at the committee's discretion.

Submissions must be in the form of a PDF prepared using the EPTCS style file (available at <http://style.eptcs.org/>). The title page should include the title of the paper, the names, affiliations and email addresses of each of the authors, and an abstract of no more than 300 words.

### Important dates

Submission: April 30, 2013

Notification: May 17, 2013

Final Version: June 14, 2013

Conference: September 9-12, 2013

## Conference proceedings

The proceedings will be published in Electronic Proceedings in Theoretical Computer Science (EPTCS) and will be available at the conference, and freely available online. For more information see the EPTCS website at <http://about.eptcs.org/>.

Following the conference, authors of selected papers will be invited to submit an extended version of their work to a special issue of an international journal.

## Program committee

Andrew Adamatzky (University of the West of England, UK)  
Matthew Cook (co-chair) (University of Zürich and ETH Zürich)  
Erzsébet Csuhaj-Varjú (Eötvös Loránd University, Budapest, Hungary)  
Jérôme Durand-Lose (University of Orléans, France)  
Rudolf Freund (University of Vienna, Austria)  
Gabriel Istrate (Institute e-Austria, Timisoara, Romania)  
Jarkko Kari (University of Turku, Finland)  
Lila Kari (University of Western Ontario, London, Canada)  
Kamala Krithivasan (Indian Institute of Technology, Chennai, India)  
Maurice Margenstern (University of Lorraine, France)  
Turlough Neary (co-chair) (University of Zürich and ETH Zürich)  
Matthew Pattitz (University of Arkansas, Fayetteville, USA)  
Igor Potapov (University of Liverpool, UK)  
Klaus Sutner (Carnegie Mellon University, Pittsburgh, USA)  
Sergey Verlan (University of Paris Est, France)  
Damien Woods (California Institute of Technology, USA)

## Invited speakers

Liesbeth De Mol (Ghent University, Belgium)  
Jarkko Kari (University of Turku, Finland)  
Kenichi Morita (Hiroshima University, Japan)  
Erik Winfree (California Institute of Technology, USA)  
Damien Woods (California Institute of Technology, USA)

## Steering Committee

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For more see the MCU 2013 website: <http://mcu2013.ini.uzh.ch/>