

Call For Extended Abstracts  
**2nd International Conference on Morphological Computation**  
**ICMC 2011**

12-14 September 2011, Venice, Italy

<http://morphcomp.org/>

Deadline for paper submission	April 15, 2011
Notification of paper acceptance:	May 27, 2011

We would like to invite you to attend the 2nd International Conference on Morphological Computation ICMC2011. The conference will be broadly interdisciplinary, including discussions in the area of robotics, frameworks for computation (reservoir computing, neural networks, computation based on spatio-temporal dynamics), chemistry and molecular biology (micro-patterning with biological polymers, interacting self-assembled micro-structures), and material science (intelligent micro materials, complex physical materials, complex surface patterning).

One key goal of the conference is to help identify central concepts, i.e. morphological computation, that can unify various fields of research and provide new research frontiers. The last conference (ICMC2007) defined a process as being a computation if (1) we can identify relation between input and output systematically, (2) the process is programmable for the generation of different classes of non-trivial input-output mappings, and (3) it is useful for some specific purposes. Starting from this definition, the mission of ICMC2011 is to bring the leading researchers from wider range of research areas including several growing areas such as reservoir computing and soft robotics in order to address the formulation and development of a new paradigm for fully embodied computation. Participants will be able to identify key open questions and key principles that can be generalized to other contexts, obtaining overview of cutting-edge research in different fields.

**Topics** of interest include, but are not limited to:

- soft robotics
- self-assembly systems and molecular robotics
- self-assembly systems at all scales
- embodied robotics
- reservoir computing
- physical reservoir computing
- computation based on spatio-temporal dynamics
- information theoretical approach to embodiment
- systems medicine
- functional architecture
- organization / process management
- molecular computing
- real neural systems
- mechatronics
- amorphous computing
- etc.

## Submission:

**Extended abstracts up to 3 pages**, formatted according to the template provided at the conference website, must be electronically submitted through the webpage. All abstracts accepted in the review process will be published in the proceedings book, and the respective authors will be invited for a **poster session**. There will be single track of **oral sessions** comprising the invited speakers as well as the authors of the best abstracts. We will further provide **an opportunity for authors of selected abstracts to publish their work in the related special issue of Artificial Life** (<http://www.mitpressjournals.org/loi/artl>).

## Steering Committee:

- Rolf Pfeifer (University of Zurich)
- Hidenobu Sumioka (University of Zurich)
- Ruedi Füchsli (University of Zurich)
- Helmut Hauser (University of Zurich)
- Kohei Nakajima (University of Zurich)
- Shuhei Miyashita (Carnegie Mellon University)

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