

Synasc 2005 - Workshops - TAPS 2005

TAPS: Workshop on Theory and Applications of P Systems
September 26 - 27, 2005
Timisoara, Romania in conjunction with SYNASC-2005
7th International Symposium on Symbolic and
Numeric Algorithms for Scientific Computing

Workshop description

P systems represent a bio-computing model abstracting the structure and functioning of the living cells. The workshop aims to bring together researchers working in membrane computing and related areas. Modelling biological systems, applications in computer science or other fields are primarily sought, while theoretical results related to these models and applications are also welcome.

Topics include, but are not limited to, the following areas:

- classes of P systems, particularly with biological relevance,
- complexity of P system, and of biological processes,
- higher-order P systems, higher-order membrane computing,
- specifications and semantics of P systems,
- decidable classes of P systems,
- simulations and implementations of membrane computing,
- various applications of P systems (optimization, security, etc.)
- fuzzy P systems, probabilistic approaches of membrane computing,
- links to system biology, process algebra/calculi, Petri nets,
- links to cellular computing, DNA, evolutionary, and other forms of natural computing.

Invited Speaker:

Gheorghe Paun (Sevilla, Spain and Bucharest, Romania): Membrane computing. Basic ideas, results, applications

Accepted papers:

Artiom Alhazov, Rudolf Freund, Agustin Riscos-Nunez: One and Two Polarizations, Membrane Creation and Objects Complexity in P Systems

Ioan Ardelean: Could P Systems Model Energy-Sensing Behavior in Bacteria?

Gemma Bel Enguix, Dolores Jimenez Lopez: Modelling Parallel Phenomena in Conversations with P Systems

Francesco Bernardini, Francisco J. Romero-Campero, Marian Gheorghe, Mario J. Perez-Jimenez, Maurice Margenstern, Sergey Verlan, Natalio Krasnogor: On P Systems with Bounded Parallelism

Luca Bianco, Vincenzo Manca, Simone Zorzan: Symbolic Representations of Biological Oscillations

Luis Fernandez, V.J. Martinez, F. Arroyo, L.F. Mingo: A Hardware Circuit for Selecting Active Rules in Transition P Systems

Rudolf Freund, Marion Oswald: P Colonies Working in the Maximally Parallel and in the Sequential Mode

Pierluigi Frisco, Ranulf Gibson: A Simulator and an Evolution Program for Conformon-P Systems

Miguel A. Gutierrez-Naranjo, Mario J. Perez-Jimenez, Agustin Riscos-Nunez, Francisco J. Romero-Campero: Characterizing Tractability with Membrane Creation

S.Hemalatha, K.S.Dersanambika, K.G.Subramanian, C. Sri Hari Nagore: P Systems Generating 3D Rectangular Picture Languages

Oscar Ibarra, Sara Woodworth: On Symport/Antiport P Systems with One or Two Symbols

Dario Pescini, Daniela Besozzi, Giancarlo Mauri: Investigating Local Evolutions in Dynamical Probabilistic P Systems

Aurelia Profir, Emilian Gutuleac, Elena Boian: Simulation of Continuous-time P Systems using Descriptive Rewriting Timed Petri Nets

R. Rama, H. Ramesh: On Generating Trees by P Systems with Active Membranes

Submission of papers:

Papers of up to 8 pages in standard double-column IEEE format describing original work (substantially different from previous published or simultaneously submitted papers) should be submitted either in PostScript or PDF format at gabriel@ieat.ro (CC: gabriel@iit.tuiasi.ro).

Accepted papers will be published after the workshop by IEEE Computer Press.

Workshop deadlines:

Deadline for paper submissions: July 24, 2005

Notification of acceptance: August 20, 2005

Final camera-ready version : August 30, 2005

Program Committee:

Gabriel Ciobanu (Iasi, Romania)

Erzsebet Csuhaj-Varju (Budapest, Hungary)

Rudolf Freund (Vienna, Austria)

Marian Gheorghe (Sheffield, UK)

Jean-Louis Giavitto (Evry, France)

Oscar Ibarra (Santa Barbara, USA)

Vincenzo Manca (Verona, Italy)

Gheorghe Paun (Sevilla, Spain and Bucharest, Romania)

Mario J. Perez-Jimenez (Sevilla, Spania)

Workshop chair:

Gabriel Ciobanu, Research Institute e-Austria of Timisoara, and
Romanian Academy, Institute of Computer Science, Iasi

More information regarding registration fees, venue, weather, travel arrangements, etc. can be found at <http://synasc05.info.uvt.ro>, or sending a message at synasc05@info.uvt.ro.