

**CMC13 - 13<sup>th</sup> International Conference on Membrane Computing,**  
August 28 – 31, 2012, Budapest

**Conference program**

**Monday, August 27**

18.00 - 20.00 **Welcome reception** at Hotel Corvin.

**Tuesday, August 28**

8.00 - 9.00 Registration

9.00 - 9.10 Opening

Session chair: Erzsébet Csuha-Vargó

9.10 - 10.10 **Rudolf Freund:** P systems with decaying objects (invited talk)

10.10 - 10.40 Coffee break

Session chair: Florentin Ipate

10.40 - 11.00 **Lucie Ciencialová, Ludek Cienciala, Michal Perdek:** 2D P colonies

11.00 - 11.30 **Dragos Sburlan:** Observer/interpreter systems

11.30 - 12.00 **Miguel Ángel Martínez-Del-Amor, Ignacio Pérez-Hurtado, Manuel García-Quismondo, Luis F. Macías-Ramos, Luis Valencia-Cabrera, Álvaro Romero-Jiménez, Carmen Graciani, Agustín Riscos-Núñez, Mari Angels Colomer, Mario J. Pérez-Jiménez:** DCBA: Simulating population dynamics P systems with proportional object distribution

12.00 - 12.20 **Sergey Verlan, Juan Quiros:** Fast hardware implementations of P systems

12.20 - 14.00 Lunch

Session chair: György Vaszil

14.00 - 14.30 **Petr Sosik:** Limits of the power of tissue P systems with cell division

14.30 - 15.00 **Antonio E. Porreca, Alberto Leporati, Giancarlo Mauri, Claudio Zandron:** Sublinear-space P systems with active membranes

15.00 - 15.30 **Luis F. Macías-Ramos, Mario J. Pérez Jiménez, Agustín Riscos-Núñez, Miquel Rius-Font, Luis Valencia-Cabrera:** The efficiency of tissue P systems with cell separation rely on the environment

15.30 - 16.00 Coffee break

Session chair: Claudio Zandron

16.00 - 16.30 **Hossam Elgindy, Radu Nicolescu, Huiling Wu:** Fast distributed DFS solutions for edge-disjoint paths in digraphs

16.30 - 17.00 **Thomas Hinze, Benjamin Schell, Mathias Schumann, Christian Bodenstein:** Maintenance of chronobiological information by P system mediated assembly of control units for oscillatory waveforms and frequency

17.00 - 17.20 **Tanvir Ahmed, Garrett Delancy, Andrei Păun:** A case-study on the influence of noise to log-gain principles for flux dynamic discovery

**Wednesday, August 29**

Session chair: Gheorghe Paun

9.00 - 10.00 **Sorin Istrail, Solomon Marcus:** The Turing - von Neumann interaction and its impact (invited talk)

10.00 - 10.20 **Rudolf Freund, Ignacio Perez-Hurtado, Agustín Riscos-Núñez, Sergey Verlan:** A formal framework for P systems with dynamic structure

10.20 - 10.50 Coffee break

Session chair: Agustín Riscos-Núñez

10.50 - 11.10 **Adam Obtulowicz:** Multigraphical membrane systems revisited

11.10 - 11.30 **Tamás Mihálydeák, Zoltán Csajbók:** Membranes with local environments

11.30 - 12.00 **Luis F. Macías-Ramos, Mario J. Pérez Jiménez:** Spiking neural P systems with functional astrocytes

12.00 - 12.30 **Roberto Pagliarini, Oana Agrigoroaiei, Gabriel Ciobanu, Vincenzo Manca:** An analysis of correlative and quantitative causality in P systems

12.30 Lunch

16.00 **Budapest sightseeing tour**

19.00 **Conference dinner on the ship "Aquincum"**

#### Thursday, August 30

Session chair: György Vaszil

9.00 - 10.00 **Yurii Rogozhin:** Turing computability and membrane computing (invited talk, presented by Artiom Alhazov)

10.00 - 10.20 **Zsolt Gazdag, Gábor Kolonits:** A new approach for solving SAT by P systems with active membranes

10.20 - 10.40 **Benedek Nagy:** On efficient algorithms for SAT

10.40 - 11.00 Coffee break

Session chair: Radu Nicolescu

11.00 - 11.30 **Yurii Rogozhin, Artiom Alhazov:** One-membrane symport P systems with few extra symbols

11.30 - 12.00 **Artiom Alhazov, Rudolf Freund, Hilbert Heikenwälder, Marion Oswald, Yurii Rogozhin, Sergey Verlan:** Time-varying P systems

12.00 - 12.30 **Artiom Alhazov, Rudolf Freund:** Asynchronous and maximally parallel deterministic controlled non-cooperative P systems characterize NFIN U coNFIN

12.30 - 14.30 Lunch

**Special session: "Turing Computability and Membrane Computing as an Unconventional Computing Paradigm"**

Session chair: Marian Gheorghe

14.30 – 15.30 **Jozef Kelemen:** Turing's three pioneering initiatives and their interplays (invited talk)

15.30 - 16.00 Coffee break

16.00 - 17.00 **Mike Stannett:** Membrane systems and hypercomputation (invited talk)

#### Friday, August 31

Session chair: Erzsébet Csuhaj-Varjú

9.00 - 10.00 **Vincenzo Manca:** MP systems for systems biology (invited talk)

**Special session: "Process Calculi, Petri nets, and Their Relationships with Membrane Computing"**

10.00 - 10.30 **Bogdan Aman, Gabriel Ciobanu:** Mobile membranes with objects on surface as colored Petri nets

10.30 – 11.00 Coffee break

Session chair: Bogdan Aman

11.00 - 11.20 **Pablo Ramón, Angelo Troina:** Modelling ecological systems with the calculus of wrapped compartments

11.20 - 11.40 **Francis George Cabarle, Henry Adorna:** On structures and behaviors of spiking neural P systems and Petri nets

11.40 - 12.10 **Florentin Ipate, Ciprian Dragomir, Raluca Lefticaru, Laurentiu Mierla, Mario J. Pérez Jiménez:** Using a kernel P system to solve the 3-Col problem

12.10 - 12.30 **Adrian Turcanu, Florentin Ipate:** Simplifying Event-B models of P systems using functions

12.30 - 12.40 **Best paper award**

12.40 - 12.50 **Presentation of CMC14**

12.50 - 13.00 Closing

13.00 Lunch