

Program of AUTOMATA 2007

MONDAY, AUGUST 27, 2007

8:30-9:15 **REGISTRATION & COFFEE**

9:15-9:30 **WELCOMING REMARKS**

9:30-11:00 **INVITED TALKS**

Session Chair: **Thomas Worsch**

9:30-10:00 **Ramon Alonso-Sanz**
Cellular Automata with Memory

10:00-10:30 **Nazim Fatès**
Prolegomena to a theory of asynchronous and probabilistic cellular automata

10:30-11:00 **COFFEE BREAK**

11:00-12:30 **INVITED TALKS**

Session Chair: **Paola Flocchini**

11:00-11:30 **Kenichi Morita**
On universal 1-d reversible cellular automata

11:30-12:00 **Katsunobu Imai**
On the influence of symmetries and neighborhoods on constructing two dimensional number-conserving cellular automata rules

12:00-12:-30 **Henning S. Mortveit**
Phase Space Equivalences of Sequential Dynamical Systems

12:30-2:00 **LUNCH BREAK & POSTER SET UP**

2:00-3:30 **INVITED TALKS**

Session Chair: **Klaus Sutner**

2:00-2:30 **Andreas Deutsch**
Cellular automaton modelling of spatio-temporal pattern formation in interacting cell systems

2:30-3:00 **Vittoria Colizza**
Are global epidemics predictable? The SARS case study.

3:00-3:30 **Pietro Lio'**
Simulating the spread of infectious disease using a spatial, agent based model

3:30-4:00 **COFFEE BREAK**

4:00-5:40 **CONTRIBUTED TALKS**

Session Chair: **Raul Rechtman**

4:00-4:20 **Eric Goles**

Parallel and Serial Dynamics in Boolean Networks

4:20-4:40 **Juan Carlos Seck Tuoh Mora**

Computational implementation of De Bruijn networks and the calculus of preimages in several steps for one-dimensional cellular automata.

4:40-5:00 **Brunon Kaminski**

Space-time directional Lyapunov exponents for cellular automata

5:00-5:20 **Paola Flocchini**

Cellular Automata and Dynamic Monopolies

5:20-5:40 **Vahid Dabbaghian-Abdoly**

A Cellular Automata Model of the Spread of HIV in a Community of Injection Drug Users

5:40-7:20 **RECEPTION & POSTER VIEWING**

LIST OF POSTERS

Haralambos Hatzikirou

Lattice-gas cellular automata as microscopic models of cell migration in heterogeneous environments

Henryk Fukś

Preimage trees in cellular automata

Angel Aponte (to be confirmed)

Inappropriate Use of the Shoulder in Highways Impact over the Increase of Gas Consumption

Masaya Nohmi

Applications of finite automata which simulate behavior of cellular automata

Fumio Ohi

Spreading Rate of Elementary Cellular Automaton of Rule 40 in Wolfram Class I

Carlos A. Perez-Delgado

Quantum Cellular Automata

Mohammad Hossein Peyravi (to be confirmed)

Using Chemical Cellular Automata in Simulation of Chemical Materials

Mohammad Hossein Peyravi (to be confirmed)

In the Queue theory, Cellular Automata is a Jackson Model

Tadakazu Sato

Linear cellular automata over vector space and their applications to mathematics and physics.

Sami Torbey

Towards a framework for high-level manual programming of cellular automata

Shengkun Xie

Statistical Analysis of Behaviour of Packets in Transit in Data Communication Network Model

TUESDAY, AUGUST 28, 2007

9:00-9:30 **COFFEE**

9:30-10:30 **INVITED TALKS**

Session Chair: **Witold Dzwiniel**

9:30-10:00 **Marcus Pivato**

Emergent Defect Dynamics in Two-dimensional Cellular Automata

10:00-10:30 **Samira El Yacoubi**

A Cellular Automata Approach for Discrete-Time Distributed Parameter Systems

10:30-11:00 **COFFEE BREAK**

11:00-11:30 **INVITED TALKS**

Session Chair: **Katsuhiko Nakamura**

11:00-11:30 **Danuta Makowiec**

On cellular automata modeling of cardiac pacemaker

11:30-12:00 **Maria Elena Lárraga**

Traffic flow based on safety embedded notions

12:00-12:30 **Jian Yuan**

Applying cellular automata in topology control of wireless sensor networks

12:30-2:00 **LUNCH BREAK**

2:00-3:30 **INVITED TALKS**

Session Chair: **Eric Goles**

2:00-2:30 **Janusz A. Holyst**

Self-organized criticality and coevolution of network structure and dynamics

2:30-3:00 **Dong-Hee Kim**

Ensemble averageability in network spectra: complex yet similar networks

3:00-3:30 **Josè Mendes**

Structural properties of complex networks

3:30-4:00 **COFFEE BREAK**

4:00-6:00 **CONTRIBUTED TALKS**

Session Chair: **Franco Bagnoli**

- 4:00-4:20** **Thomas Worsch**
How to achieve universality in a CA using the same local rule but different neighborhoods
- 4:20-4:40** **Witold Dzwinel**
Can the spatially extended populations replicate the logistic map?
- 4:40-5:00** **Katsuhiko Nakamura**
Towards a Basis for Parallel Language Recognition by Cellular Automata
- 5:00-5:20** **Hidenosuke Nishio**
Fix a Local Function and ChangeNeighborhoods
- 5:20-5:40** **Jean-Baptiste Yunès**
New extensions to some firing squad synchronization solutions
- 6:40-up** **BANQUET**

WEDNESDAY, AUGUST 29, 2007

- 9:00-9:30** **COFFEE**
- 9:30-10:30** **INVITED TALKS**
Session Chair: **Brunon Kamiński**
- 9:30-10:00** **Pedro P.B. de Oliveira**
Evolutionary computation techniques to look for cellular automata rules
- 10:00-10:30** **Burton Voorhees**
Transformations of Binary Valued Additive Rules
- 10:30-11:00** **COFFEE BREAK**
- 11:00-11:30** **INVITED TALKS**
Session Chair: **Kenichi Morita**
- 11:00-11:30** **Angelo B. Mingarelli**
A classification scheme of fuzzy cellular automata with applications to ECA
- 11:30-12:00** **Stefania Bandini**
A Neuron-genetic approach for Pattern Recognition in Cellular Automata
- 12:00-12:30** **Gabriel Wainer**
The Cell-DEVS formalism: modeling and simulating discrete-event cell spaces
- 12:30-2:00** **LUNCH BREAK**

2:00-3:30 **INVITED TALKS**

Session Chair: **Katsunobu Imai**

2:00-2:30 **Franco Bagnoli**
Boolean Derivatives, Chaos and Synchronization in Cellular Automata

2:30-3:00 **Raul Rechtman**
Entropy and Chaos in a Discrete Hydrodynamical System

3:00-3:30 **Raymond Kapral**
Simple Dynamics for Complex Systems

3:30-4:00 **COFFEE BREAK**

4:00-6:00 **CONTRIBUTED TALKS**

Session Chair: **Danuta Makowiec**

4:00-4:20 **David Pritchard**
Efficient Divide-and-Conquer Simulations Of Symmetric FSAs

4:20-4:40 **Klaus Sutner**
Classification and Complexity

4:40-5:00 **Edward Powley**
Classifying cellular automata by automorphisms of transition diagrams

5:00-5:20 **Reem Yassawi**
Emulating Substitution Shifts using Cellular Automata

5:20-5:40 **Silvio Capobianco**
Surjectivity and surjunctivity of cellular automata in Besicovitch topology

5:40-6:00 **Matthew Macauley**
Order Independence in Asynchronous Cellular Automata

6:00-6:20 **CONFERENCE ENDS**