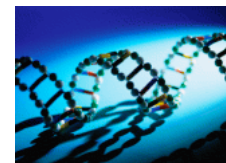


European Conference on Complex Systems

Paris, 14-18 November 2005



Agenda

[Download agenda in pdf](#)

[Monday 14th Ciup](#) | [Tuesday 15th Ciup](#) | [Wednesdays 16th Ciup](#) | [Thursday 17th Ciup](#) | [Friday 18th Ciup](#) | [Friday 18th Evry](#) |

Monday

Morning : Invited Speakers

9:00 - 9:50 :

9:50 -10:40 : [Jean-Christophe Yoccoz](#) *A panorama of the mathematical theory of dynamical systems.*



Coffee Break

11:10-12:00 [Giorgio Parisi](#) *The complexity from a point of view of a physicist.*



12h - 13h30 : Lunch

Room1 : Complex Systems Methods	Room2 : Biological Modelling	Room3 : Network Modelling	Room4 : Social Modelling
<p>13:30 Reconstructing the rules of 1D cellular automata using closure systems José L Balcázar , Gemma Casas-Garriga, Pablo Díaz-López (short talk)</p> <p>13:50 Algebraic Hierarchies of Cellular Automata Classes M. Delorme, J. Mazoyer and G. Theyssier (short talk)</p> <p>14:10 Parallel vs. Sequential Threshold Cellular Automata: Comparison and Contrast Predrag Tosic and Gul Agha (short talk)</p> <p>14:30 On stability of computations by cellular automata Bruno Durand and Andrei Romashchenko (short talk)</p>	<p>13:30 Shape spaces in formal interactions Davide Prandi, Corrado Priami and Paola Quaglia (long talk)</p> <p>14:10 Modeling inference and simulation of biological networks using Constraint Logic Programming (CLP) Eric Fanchon (Institut de Biologie Structurale), Fabien Corblin (LSR- IMAG) and Laurent Trilling (LSR-IMAG) (short talk)</p> <p>14:30 Emergent properties of metabolic systems and the effect of constraints on enzyme concentrations Sicard D., Dillmann C., Fiévet J.</p>	<p>13:30 Weighted networks: empirical results and models Marc Barthelemy, Alain Barrat, Alessandro Vespignani (long talk)</p> <p>14:10 Lightweight centrality measures in networks under attack Giorgos Georgiadis, Lefteris Kirousis (long talk)</p> <p>14:50 Universal scaling of inter-node distances in complex networks J. A. Holyst , J. Sienkiewicz, A. Fronczak, P. Fronczak, K. Suchecki and P. Wojcicki (short talk)</p>	<p>13:30 Behaviour as a Complex Adaptive System Stefano Nolfi (long talk)</p> <p>14:10 On the Dynamics of Communication and Cooperation in Artificial Societies A.E. Eiben, M.C. Schut , N. Vink (long talk)</p> <p>14:50 Altruism "For Free" using Tags David Hales (short talk)</p>

14:50 Universality of Two Dimensional SandpilesE. Goles, A. Gajardo
(short talk), Grima L. and De Vienne D.
(short talk)**14:50 Modelling of IL-6 role in early hematopoiesis with Hybrid Functional Petri Nets**Sylvie Troncale, David Campard, Abdelghani Hachami, Janine Guespin-Michel, Jean-Pierre Vannier and Fariza Tahi
(short talk)

15:10 - 15:40 Coffee Break

Room1 : Bio Inspired Methods**15:40 An Electronically Controlled Microfluidics Approach Towards Artificial Cells**Uwe Tangen, Patrick F. Wagler, Steffen Chemnitz, Thomas Maeke and John S. McCaskill
(long talk)**16:20 Chemotaxis-Inspired Load Balancing**

Geoffrey Canright, Andreas Deutsch, Tore Utnes (long talk)

17:00 Container growth and replicator dynamics in pre-biotic chemistryOlof Görnerup, Martin Nilsson Jacobi and Steen Rasmussen
(short talk)**Room2 : Biological Modelling****15:40 Invariant grids: method of complexity reduction in reaction networks**

Gorban A., Karlin I., Zinovyev A. (long talk)

16:20 War of attrition with implicit time costAnders Eriksson, Kristian Lindgren and Torbjörn Lundh
(short talk)**16:40 Reduction of complexity in dynamical systems**

Tri Nguyen-Huu, Pierre Auger, Christophe Lett, Jean-Christophe Poggiale (short talk)

17:00 Delay model for the mammalian circadian clock

K. Sriram, Gilles Bernot, and François Képès (short talk)

Room3 : Network Modelling**15:40 On Small-World generating Models**Michael Kaufmann, Katharina A. Lehmann, Hendrik Post
(short talk)**16:00 Counting loops in random graphs and real-world networks**

E. Marinari, R. Monasson and G. Semerjian (short talk)

16:20 Analysis and visualization of large scale networks using the k-core decomposition

Ignacio Alvarez-Hamelin, Luca Dall'Asta, Alain Barrat and Alessandro Vespignani (short talk)

16:40 Data stream computation for monitoring statistics of massive Webgraphs.

Luciana S. Buriol, Debora Donato, Stefano Leonardi, Tobias Matzner (short talk)

17:00 Distributed Algorithms for Data Propagation in Deeply Networked Wireless Sensor DevicesIoannis Chatzigiannakis, Sotiris Nikolettas and Paul Spirakis
(short talk)**Room4 : Social Modelling****15:40 Heterogeneity and predictability of global epidemics**
V. Colizza, A. Barrat, M. Barthélemy, A. Vespignani (short talk)**16:00 The design of an artificial society**

Nigel Gilbert, Stephan Schuster and Lu Yang (short talk)

16:20 Fame as an Effect of the Memory Size

Haluk Bingol

16:40 The Evolution of Free and Open Source Software Contracts : a Dynamic ModelJean-Batiste Soufron, Jean Sallantin
(short talk)**17:00 Enabling cooperative behaviour through ICT in organisations**

Jostein Engesmo (short talk)

17h - 19h : Poster Session**Tuesday****Morning : Invited Speakers****9:00- 9:50 Tamas Vicsek** *Uncovering the overlapping community structure of complex networks in nature and society.***9:50 -10:40 Luca Cardelli** *Biological Systems as Reactive Systems*

Coffee

11:10-12:00 Henrik Lund *Modular Robotic Systems as Complex Systems*






12h - 13h30 : Lunch

Room1 : Bio Inspired Methods	Room2 : Information Techn. Modelling	Room3 : Network Modelling	Room4 : Social Modelling
<p>13:30 On the Complexity of Physical Problems and a Swarm Algorithm for k-Clique Search in Physical Graphs Yaniv Altshuler , Arie Matsliah, Ariel Felner (long talk)</p> <p>14:10 The POEtic Electronic Tissue and its Role in the Emulation of Large-Scale Biologically Inspired Spiking Neural Networks Models J. Manuel Moreno, Yann Thoma, Eduardo Sanchez (long talk)</p> <p>14:50 Evolving artificial "brains": a biomimetic Evolutionary Neuro- P. Ittzés,Z.Szathmáry, S. Szathmáry, S. Számádó, E.Szathmáry (short talk)</p>	<p>13:30 Traffic dynamics in scale-free networks Attila Fekete, Gabor Vattay, Ljupco Kocarev (long talk)</p> <p>14:10 Traceroute-like exploration of unknown networks: a statistical analysis Alain Barrat , Ignacio Alvarez-Hamelin, Luca Dall ', Asta, Alexei Vazquez, Alessandro Vespignani</p> <p>14:50 A Simulation Study of Network Discovery Strategies F. Eberhard, T. Erlebach, A. Hall (short talk)</p>	<p>13:30 Is selection optimal for scale-free small worlds? Zs. Palotai , Cs. Farkas, A. Lorincz (long talk)</p> <p>14:10 Bounded Rationality and Repeated Network Formation Sylvain Béal , Nicolas Quérrou (long talk)</p> <p>14:50 A Generative Model of Power Law Distributions with Optimizing Agents with Constrained Information Access Laszlo Gulyas (short talk)</p>	<p>13:30 A Theory-based Dynamical Model of Innovation Process David Lane, Roberto Serra, Marco Villani, Luca Ansaloni (long talk)</p> <p>14:10 Modeling Firm Skill-Set Dynamics as a Complex System Edoardo Mollona, David Hales (long talk)</p> <p>14:50 Metamimetic games : Modeling metadynamics in social cognition David Chavalarias (short talk)</p>



15:10 - 15:40 Coffee Break

Room1 : Complex Systems Methods	Room2 : Biological Modelling	Room3 : Network Modelling	Room4 : Social Modelling
<p>15:40 Message passing algorithms for non-linear nodes and data compression Stefano Ciliberti , Marc Mezard, Riccardo Zecchina (long talk)</p> <p>16:20 Combinatorial auctions: From statistical physics to new algorithms Michele Leone, Mauro Sellitto, Martin Weigt (short talk)</p> <p>16:40 A spin glass model of human logic systems Fariel Shafee (short talk)</p> <p>17:00 Statistical Physics of Boolean Control Networks L. Correale, M. Leone, A. Pagnani , M. Weigt and R. Zecchina (short talk)</p> <p>17:20 Flows of information as the driving force behind chemical pattern formation Kristian Lindgren and Anders Eriksson (short talk)</p>	<p>15:40 Complex Qualitative Models in Biology: a new approach P. Veber , M. Le Borgne, A. Siegel, O. Radulescu (long talk)</p> <p>16:20 An overview of the quest for regulatory pathways in microarray data Nizar Touleimat , Florence d-Buc and Marie Dutreix (short talk)</p> <p>16:40 Dynamics and pattern formation in invasive tumor growth Evgeniy Khain and Leonard M. Sander (short talk)</p> <p>17:00 Self-organisation and other emergent properties in a simple biological system of microtubules. James Tabony (short talk)</p> <p>17:20 Concentration and spectral robustness of biological networks with</p>	<p>15:40 Spreading on networks: a topographic view Geoffrey S Canright and Kenth Engø-Monsen (long talk)</p> <p>16:20 Correlation Model of Worm Propagation on Scale-Free Networks Zoran Nikoloski , Narsingh Deo, Ludek Kucera (long talk)</p> <p>17:00 Variability of the infection time in scale-free networks Pascal Crépey, Fabian Alvarez, Marc Barthélemy (short talk)</p>	<p>15:40 Towards a functional formalism for modelling complex industrial systems D. Krob - S. Bliduze (long talk)</p> <p>16:20 Production networks and failure avalanches Gérard Weisbuch, Stefano Battiston (long talk)</p> <p>17:00 Noise sensitivity of portfolio selection under various risk measures I . Kondor (short talk)</p>

		hierarchical distribution of time scales A.N.Gorban and O.Radulescu (short talk)			
<div>17h - 19h : <u>Poster Session</u></div>					
<div><div></div><div><div>Tuesday 15 :  Satellite Workshops</div><div>Coordinator : David Hales 14h30 - 16h30 : <u>Engineering with complexity and emergence</u> Ozalp Babaoglu, Mark Jelasity, Alberto Montresor, Giovanna Di Marzo, Franco Zambonelli. Coffee break 17h - 19h00 : <u>Engineering with complexity and emergence</u> ▲</div></div></div>					
<div>Wednesday</div> <div>Morning : Invited Speakers</div> <div>9:00- 9:50 <u>Peter Schuster</u> <i>The complexity of genotype-phenotype maps and its consequences for evolution.</i></div> <div>9:50 -10:40 <u>Douglas White</u> <i>Multi-net analysis and nonlinear dynamics: some methods and results in complexity science.</i></div> <div>Coffee</div> <div>11:10-12:00 <u>Wolf Singer</u> <i>The brain seen as a goal-oriented, self-organizing complex system.</i></div> <div>▲</div>					
<div>12h - 13h30 :  Lunch</div>					
Room1 : Bio Inspired Methods		Room2 : Information Techn. Modelling		Room3 : Network Modelling	
Room4 : Social Modelling					
<div>13:30 Design Patterns from Biology for Distributed Computing Ozalp Babaoglu, Geoffrey Canright, Andreas Deutsch, Gianni Di Caro, Frederick Ducatelle, Luca Gambardella, Niloy Ganguly, Mark Jelasity, Roberto Montemanni , Alberto Montresor (long talk)</div> <div>14:10 Elements about the Emergence Issue : A survey of emergence definitions</div>		<div>13:30 On emergent phenomena in everyday activities taking place in AmI spaces Ioannis D. Zaharakis, Achilles D. Kameas (short talk)</div> <div>13:50 Improved message passing D for inference in densely connected systems Juan P. Neirotti and David Saad (short talk)</div> <div>14:10 Evolutionary Game Theory with Applications to</div>		<div>13:30 Resource allocation on sparse graphs Michael K .Y . Wong, David Saad and Zhuo Gao (short talk)</div> <div>13:50 Partitioning networks into classes of mutually isolated vertices J. Diaz, L. Kirousis, X . Perez (short talk)</div> <div>14:10 Clustering and robustness in networks Y Grondin, D J Raine (short talk)</div>	<div>13:30 Optimization and control of the urban spatial dynamic Ferdinando Semboloni (long talk)</div> <div>14:10 Modelling detail stores spatial distribution Pablo Jensen, Hernan Larralde, Margaret Edwards (short talk)</div> <div>14:30 Simulation of pedestrians and cars in an urban network Arnaud Banos, Sylvain Lassarre (short talk)</div> <div>14:50 Transition to Coherent</div>

<p>Joris Deguet, Yves Demazeau, Laurent Magnin (long talk)</p> <p>14:50 Behavior transitions provided by dynamical features of recurrent neural network - a case study of complex phenomena in behavior based robotics Martin Huelse, Steffen Wischmann and Frank Pasemann (short talk)</p>	<p>Adaptive Routing Simon Fischer and Berthold Vöcking (short talk)</p> <p>14:30 Atomic Selfish Routing in Networks: A Survey Spyros Kontogiannis, Paul Spirakis (short talk)</p> <p>14:50 Measuring Preferential Attachment in a Hyper-Textual Dictionary Reference Network Eksi Sözlük , Amac Herdagdelen, Eser Aygun, Haluk Bingol (short talk)</p>	<p>14:30 On the Propagation of Congestion Waves in the Internet J. Steger , P. Vadera, G. Vattay (short talk)</p> <p>14:50 Towards Self-Organizing Query Routing and Processing for Peer-to-Peer Web Search Gerhard Weikum, David Hales, Christian Schindelhauer , Peter Triantafillou (short talk)</p>	<p>Oscillatory Behaviour in a Route Choice Game Dirk Helbing, Martin Schoenhof, Hans-Ulrich Stark, and Janusz A. Holyst (short talk)</p>
--	---	---	---



15:10 - 15:40 Coffee Break

Room1 : Complex Systems Methods	Room2 : Information Techn. Modelling	Room3 : Cognition Modelling	Room4 : Social Modelling
<p>15:40 Understanding Fractal Analysis?The case of Fractal Linguistics Jelinek, H.F., Jones, C., Warfel, M., Lucas, C., Depardieu, C., Aurel, G. (long talk)</p> <p>16:20 Ambiguity in Art Igor Yevin (long talk)</p> <p>17:00 Hierarchical Organization in Smooth Dynamical Systems Martin Nilsson Jacobi (short talk)</p> <p>17:20 Toward a multi-scale approach for modelling and simulation of complex system Thi Minh Luan Nguyen, Christophe Lecerf, Ivan Lavallée (short talk)</p>	<p>15:40 Emergent Group-Level Selection in a Peer-to-Peer Network David Hales (long talk)</p> <p>16:20 Measuring the Dynamical State of the Internet: Large Scale Network Tomography via the ETOMIC Infrastructure Gabor Simon, Jozsef Steger , Peter Haga, Istvan Csabai , Gabor Vattay (long talk)</p> <p>17:00 MEDUSA: a functional model of Internet substructure Scott Kirkpatrick, Shai Carmi , Eran Shir (short talk)</p> <p>17:20 Mining the Inner Structure of the Webgraph Debora Donato, Stefano Leonardi and Panayiotis Tsaparas (short talk)</p>	<p>15:40 An Economic Theory of Language Gabor Fath and Miklos Sarvary (long talk)</p> <p>16:20 Stability conditions in the evolution of compositional languages: issues in scaling population sizes Paul Vogt (short talk)</p> <p>16:40 Self-Organizing Communication in Language Games A. Baronchelli, M. Felici , E.Caglioti , V. Loreto and L. Steels (short talk)</p> <p>17:00 The self-organization of combinatorial vocalization systems Pierre-Yves Oudeyer (short talk)</p> <p>17:20 When language breaks into pieces. A conflict between communication through isolated signals and language. Ramon Ferrer i Cancho (short talk)</p>	<p>15:40 A Multi-Level Model for Spatial Dynamics of Systems of Cities through Innovation Processes Denise Pumain (short talk)</p> <p>16:00 Modelling urban networks dynamics with multi-agent systems Lena Sanders (short talk)</p> <p>16:20 Analysing the resilience of complex resources management systems – a stylised simulation model of human-nature interactions in a river basin Maja Schlueter & Claudia Pahl-Wostl (short talk)</p> <p>16:40 Reflexivity as a constitutive property of a complex urban system Sylvie Occelli , Luca Staricco (short talk)</p> <p>17:00 Complex-City: the Shift of Urban Science from Classic to an Evolutionary Approach Giovanni A. Rabino (short talk)</p> <p>17:20 The problem of design in complexity research Theodore Zamenopoulos and Katerina Alexiou (short talk)</p>

17h - 19h : [Poster Session](#)



Wednesday 16 :  **Satellite Workshops**

Coordinator : David Hales

Ozalp Babaoglu, Mark Jelasity, Alberto Montresor, Giovanna Di Marzo, Franco Zambonelli.



[Web Site](#)

14h30 - 16h30 : [Engineering with complexity and emergence](#)



17h - 19h00 : [Engineering with complexity and emergence](#)



Thursday 17 : Satellite Workshops



Coffee breaks : AM : 11h-11h30 ; PM : 17h-17h30

Room 1	Room 2	Room 3	Room 4	Room 5
08h30 - 13h00				
Cities and regions as collective intelligence Denise Pumain Danièle Bourcier Jean-Pierre Gaudin	Peer to peer data management... Christian Schindelhauer Giovanni Cortese Friedhelm Meyer auf der Heide	Emergent properties... M.A. Aziz Alaoui Michel Costasftis Cyrille Bertelle Frederic Guinand Marc Rouff	Complex time-delay systems Fatihcan Atay	Common trends in statistical physics... Michele Leone Marc Mezard Andrea Pagnani Martin Weigt









Lunch


14h30 - 19h00				
Cities and regions as collective intelligence	Embracing complexity in design Jeffrey Johnson Katerina Alexiou Theodore Zamenopoulos Web Site	Emergent properties Web Site	Complex time-delay systems Web Site	Common trends in statistical physics... Web Site




Friday 18 : Satellite Workshops

 Coffee breaks : AM : 11h-11h30 ; PM : 17h-17h30				
Session 1	Session 2	Session 3	Session 3	Session 5
08h30 - 13h00				
<u>Industry facing complexity</u> Paul Bourguine Ralph Dum	<u>Semiotic dynamics and emergent grammar</u> Luc Steels	<u>Complex chemical system design</u> John McCaskill Norman Packard	<u>Multi-agents for modelling...</u> Salima Hassas Giovanna Di Marzo Serugendo	<u>Dynamical processes on complex networks</u> Alain Barrat Marc Barhtélemy
<div>   Lunch </div>				
14h30 - 19h00				
<u>Industry facing complexity</u> Alain Bloch Daniel Krob Dominique Luzeaux	<u>Semiotic dynamics and emergent grammar</u>  Web Site	<u>Complex chemical system design</u>	<u>Multi-agents for modelling...</u>  Web Site	<u>Dynamical processes on complex networks</u>  Web Site


Fri dayFri



Friday 18 :

Satellite Workshops

Reverse Modeling of biological regulatory networks : Expectations and limitations

Florence d'Alché-Buc - François Kepes


[web site](#)

Location : Genopole Evry, 2, rue Gaston Crémieux, 91000 Evry (France)

[Contacts](#)

Supported by the Future
Emerging Technologies
programme of the information
Society Technologies
programme of the European
Commission.

