

AIRS

Associazione Italiana per la Ricerca sui Sistemi
Italian Systems Society

<http://www.airs.it>

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Quinto Congresso Nazionale di Sistemica
Fifth National Conference on Systems Science

Metodi, modelli, simulazioni e approcci
per una teoria generale del cambiamento
Methods, Models, simulations and approaches
towards a general theory of change

Lezione introduttiva / *Opening lecture*

"Collectively Autocatalytic Sets and the Origin of Life"
by Stuart Kauffman



UNIVERSITÀ POLITECNICA DELLE MARCHE
FACOLTÀ DI INGEGNERIA – SEDE DI FERMO
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Giovedì 14 - Sabato 16 Ottobre 2010
Thursday 14th – Saturday 16th October, 2010

CON IL PATROCINIO DELL'EUUF (ENTE UNIVERSITARIO DEL FERMANO)

Si ringrazia la *Fondazione Cassa di Risparmio di Fermo* per il supporto

PROGRAMMA DEI LAVORI CONFERENCE PROGRAM

Sessions (46 papers):

1. Self-organization, Chaos, Complexity, Collective Behaviour. (5)
2. Theories of change. (9)
3. Learning as a process of changing and induction of systems thinking. (6)
4. Change in Artificial Vision. (3)
5. Processes of change in Economics and Management. Theories and applications. (6)
6. Architecture and Design as the design of contexts for inducing processes of change in social systems. (8)
7. Theories of change in Cognitive Science. (5)
8. Change in social systems. (4)

Open lecture by Stuart Kauffman

Plenary by Walter Freeman

Plenary by Giuseppe Conte and Annamaria Perdon

14 Ottobre / October 14th

10:00 – 14:00	Registrazione / Enrolment
14:40 – 14:10	Apertura e benvenuto al Quinto Congresso dell' AIRS / Welcome to the Fifth Conference of the Italian Systems Society <i>G. Minati, Presidente dell' AIRS / AIRS President</i>
14:10 – 15:30	Opening Lecture: Collectively Autocatalytic Sets and the Origin of Life <i>Stuart Kauffman - Santa Fe Institute, University of Calgary and University of Vermont</i>
15:40 – 18:40	Session 1 - Self-organization, Chaos, Complexity, Collective Behaviour <i>Chairman: Pessa</i>
15:40 – 16:10	24. Describing cell differentiation with random boolean networks <i>R. Serra, M. Villani, A. Barbieri</i>
16:10 – 16:40	20. Information as Environment Changings. Classical and Quantum Morphic Computation <i>G. Resconi, I. Licata</i>
16:40 – 17:10	Coffee break
17:10 – 17:40	6. Berry-like phase and gauge field in quantum computing <i>A. Bruno, A. Capolupo, G. Raimondo, G. Vitiello</i>
17:40 – 18:10	16. First draft of an experimental protocol for research into meta-structural properties in simulated collective behaviours <i>G. Minati</i>
18:10 – 18:40	37. On models of emergent metastructures <i>Pessa E.</i>

15 Ottobre / October 15th

9:00 – 10:00	Nonlinear brain dynamics in perception: the 'codes' of the brain <i>Walter J Freeman, Department of Molecular & Cell Biology University of California at Berkeley</i>	
10:15 – 12:45	Session 2 - Theories of change. Chairman: <i>Licata</i>	Session 3 - Learning as a process of changing and induction of systems thinking Chairman: <i>Penna</i>
10:15 – 10:45	4. Emergent processes as generation of discontinuities <i>L. Bich, G. Bocchi</i>	9. Elementary Pragmatic Model <i>P. De Giacomo</i>
10:45 – 11:15	Coffee break	
11:15 – 11:45	14. Ontology evolution: how an ontology can change, and how to manage inconsistency <i>M. Mazziere</i>	21. Picture book reading with young children: a systemic context to promote the change in children with autism <i>D. Rollo, L. Farris</i>
11:45 – 12:15	15. Reversible Dynamics and the Reversibility of Time <i>C. Mazzola, M. Giunti</i>	22. Environmental Conflicts Management as Social Learning Opportunity <i>A.T. Ronchi</i>
12:15 – 12:45	11. Dynamical systems on monoids: toward a general theory of deterministic systems and motion <i>M. Giunti, C. Mazzola</i>	27. Multiple neural networks and bayesian belief revision for a never-ending unsupervised learning <i>A.F. Dragoni, P. Baldassarri, G. Vallesi</i>
12:45 – 13:45	Pranzo / Lunch	

15 Ottobre / October 15th

14:15 – 15:00	<p>30. Working with new paradigms and challenges in control theory <i>G. Conte, A. Perdon - Dipartimento di Ingegneria Informatica, Gestionale e dell'Automazione Università Politecnica delle Marche, Ancona</i></p>	
15:00 – 16:00	<p>Session 2 - Theories of change (continuation) <i>Chairman: Licata</i></p>	<p>Session 3 - Learning as a process of changing and induction of systems thinking (continuation) <i>Chairman: Penna</i></p>
15:00 – 15:30	<p>25. Selfish gene or altruistic organisms? <i>G. Tascini</i></p>	<p>31. The 'Magic Eight Model'. The Enactive Approach of Francisco Varela and the Generative Learning Circle <i>M. De Simone, D. Simoncini</i></p>
15:30 – 16:00	<p>36. The logical levels of change. Notes on the epistemology of psychological sciences <i>R. Arpaia</i></p>	<p>17. The systemic nature of the Theory of didactic situations in Mathematics (TDSM) <i>S. Mocci, M. Polo, C. Sechi, M.P. Penna</i></p>
16:00 – 16:30	Coffee break	
16:30 – 18:00	<p>Session 2 - Theories of change (continuation) <i>Chairman: Licata</i></p>	<p>Session 4 - Change in Artificial Vision <i>Chairman: Tascini</i></p>
16:30 – 17:00	<p>43. Preserving Uncertainty <i>G. Bruno</i></p>	<p>12. From Pattern Recognition to Image Understanding <i>S. Guberman, V. Maximov, A. Pashincev</i></p>
17:00 – 17:30	<p>40. Investigating Complexity in Electric Power Systems <i>M. Abram, M. Sforna</i></p>	<p>26. Using visual looming method to perform a turning of a mobile robot <i>G. Vallesi, P. Baldassarri, G. Carbonari</i></p>
17:30 – 18:00	<p>42. Entropy, Stability and Dissipation <i>U. Di Caprio</i></p>	<p>41. The emergence of perceptual grouping ability in neural network models of visual cortex operation <i>M.P. Penna, A. Montesanto, E. Pessa</i></p>
20:00	<p>Social dinner in Fermo Ristorante 180 Gradi, Via Girolamo Montani,10</p>	

16 Ottobre / October 16th

9:00 – 13:00	Session 5 - Processes of change in Economics and Management. <i>Chairman: Serra</i>	Session 6 - Architecture and Design as the design of contexts for inducing processes of change in social systems <i>Chairman: Bruno</i>
9:00 – 9:30	1. Inventions and sustainability in an agent-based model of innovation. <i>L. Ansaloni, M. Villani, R. Serra, D. Lane</i>	13. Innovative use of space and social implications of complex shapes construction <i>A. Mangiarotti, I. Paoletti</i>
9:30 – 10:00	8. Managing the self-organizational dynamics to compete in complexity <i>A. Cravera</i>	10. Architecture and Development of and within Social Systems <i>G. Giallocosta</i>
10:00 – 10:30	5. The dynamics of knowledge transfer in industrial clusters. An application of Boolean network modeling. <i>L. Biggiero, M. Basevi</i>	7. Trans-disciplinary inquiry through convergence of architecture, design, art and human science <i>A. Collen</i>
10:30 – 11:00	Coffee break	
11:00 – 11:30	23. A dynamic “model” to support the organizing change design <i>H. Sedehi, M. Toni</i>	32. Systemics and architecture - settlement system: the impossible end and the possible roles of architecture <i>V. Di Battista</i>
11:30 – 12:00	29. The emergent power of web-platform for enhancing ecosystem innovation <i>A.F. De Toni, G. Biotto, G. Carignani</i>	38. Assessing sustainability in Urban Design through the Analytic Network Process approach <i>L. Diappi, P. Bolchi, G. Concilio</i>
12:00 – 12:30	35. Organizational climate for innovation: development of a new theoretical model <i>F. Montani, C. Odoardi, A. Battistelli</i>	39. Re-tracing the systemic approach in architecture and developing working tools <i>C. Fontana</i>
12:00 – 12:30	Discussion	The project: “Architecture as the design of interdisciplinary boundary conditions for the establishment of processes of emergence in social systems” <i>A. Collen, V. Di Battista, C. Fontana, G. Giallocosta, G. Minati</i>
12:30 – 14:00	Pranzo / Lunch	

16 Ottobre / October 16th

14:15 – 15:15	Session 7 - Theories of change in Cognitive Science <i>Chairman: Vitiello</i>	Session 6 - Architecture and Design as the design of contexts for inducing processes of change in social systems (continuation) <i>Chairman: Bruno</i>
14:15 – 14:45	2. Subthreshold thoughts disorder: A continuum with paranoid delusions ? The role of attributional heuristics biases in a systemic theoretical framework <i>P.L. Bandinelli, C. Palma</i>	46. The aesthetic of desire: the language of the shop window's display in retail design <i>V. Carrino, V. Pirritano</i>
14:45 – 15:15	3. A Systemic Model of Metacognition <i>G. Ducci, P.L. Bandinelli, R. Bonanni</i>	45. A new approach to the museum project. The museum system through the Design of Systems. A project for the cultural heritage applied to the museum of roman culture in Rome <i>L. Marchetti, T. Salvatori</i>
15:15 – 15:45	Coffee break	
15:45 – 17:15	Session 7 - Theories of change in Cognitive Science (continuation) <i>Chairman: Vitiello</i>	Session 8 - Theories of change in Social Systems <i>Chairman: Biggero</i>
15:45 – 16:15	19. Teachers and the emergence of mathematical knowledge against the backdrop of systems theory <i>M. Polo, L. Cirina, M. Alberti, F. Paoli</i>	33. Organizational change and work stress among mental health care staff <i>P. Argentero, A. Bruni, E. Fiabane, I. Setti</i>
16:15 – 16:45	44. Music: emergence and meta-structural properties in the practice of the basso continuo <i>E. Pietrocini</i>	34. Redundancy: Bounded or Generative Order? Co-Evolutionary Change Manager Skills and Organizational Well-Being <i>D. Simoncini, M. De Simone</i>
16.45 – 17.15	28. Emotion and alexithymia in eating disorders: indications to promote a change in the family-social system <i>M.G. Cilio, D. Rollo</i>	18. The Discontinuous Continuity: A new Principle of Perceptual Grouping and Part-Whole Organization <i>B. Pinna, M. Tanca</i>
17:15 – 17:30	Chiusura del Congresso / End of the Conference	