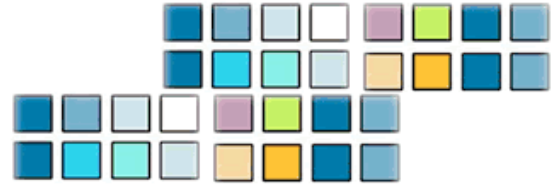




MAGIS



**Spatial
Simulation
for the
Social
Sciences**



Emergence in Geographical Space: Concepts, Methods and Models

International Conference, Paris, France

23, 24 and 25* November 2009

[Joint day with SAGEO Conference, co-organised by MAGIS and S4]*

1 Topic of the conference

The concept of emergence is of crucial importance to understand the spatial organisation of societies. Describing the appearance of novelty, it identifies a creation, which qualitative nature is hardly predictable. However, new theories and models are able to reproduce some of the conditions of emergence and diffusion of changes in geographical space. Generally speaking, emergence is characterised by the apparition, at a given scale, of structures and patterns mainly produced by the interactions between entities at a lower scale. It then occurs at the junction between various scales and levels, from individual and his/her cognitive representations to society, including its various levels. One key challenge consists then in connecting the vast amount of knowledge built on these two extremes, in order to link the micro and the macro. In that perspective, two complementary dimensions are of special importance. Bottom-up retroaction first, that link micro processes to the emergent global structures they contribute to create. But also top-down retroactions, that link these emerging structures to orientate and even constrain processes at the micro level. Furthermore, the apparent resilience of forms and structures in space forces us to address the processes that maintain these structures, under a large range of perturbations, whatever the diversity and renewal of actors and of social, economic and cultural evolutions at work.

2 Organising Committee

Coordinators: Denise Pumain and Arnaud Banos, European Network S4¹, France

Co-organizing institutions:

Yasushi Asami (CSIS², Japan)

David Batten (COSNET³, Australia)

René Doursat (Complex Systems Institute of Paris-Ile-de-France⁴, France)

Thierry Joliveau (GDR MAGIS⁵, France)

Carlo Lavalle (European Commission Joint Research Centre⁶, Ispra, Italy)

¹ <http://s4.parisgeo.cnrs.fr/>

² <http://www.csis.u-tokyo.ac.jp/english/index.html>

³ http://www.complexsystems.net.au/content/about_us

⁴ <http://www.iscipif.fr>

⁵ <http://cassini.univ-lr.fr/>

⁶ <http://ec.europa.eu/dgs/jrc/index.cfm>



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3 Keynote Speakers

H.A. Makse (USA), Laws governing urban growth

Lael Parrott (Canada), Spatial dynamics of ecosystems

Marc Barthelemy (France), Large networks and spatial organisation

4 Main Themes

Self-organisation, self-reinforcement and resilience of spatial systems will constitute the main guidelines of this conference, with a special emphasis on the emergence of innovations.

Contributions dealing with (but not limited to) the following fields are encouraged:

- Territorial emergence: actors (beliefs, norms, values, authority...), scales, dynamics...
- Emergent political structures (institutions, participative networks, electoral geographies...)
- Cities as emergent entities
- Social networks and collective cognition as conditions of emergence
- Emerging landscapes
- Emergence of pathologies and epidemics
- Sustainable development as a new opportunity for the emergence of territories
- Positive and negative emergence: early detection of amplifications and resistances, but also acceleration and reinforcement of improving and integrating processes
- Signatures of emergence in models and measures
- Predictability and decision making: efficient scales for prospect and governance
- Conditions of emergence in resilient systems
- Relations between emergence and evolution

5 Scientific Committee

Arnaud Banos, CNRS Image-Ville-Environnement ERL 7230 (France)

Michael Batty, CASA University College London (UK)

Paul Bourgine, CREA, Ecole Polytechnique (France)

David Chavalarias, CREA (France)

Lidia Diappi, Politecnico di Milano (Italy)

René Doursat, ISC-PIF (France)

Pierre Frankhauser, THEMA Université de Franche-Comté (France)

Jean-Louis Giavitto, IBISC, Université d'Evry (France)

Volker Grimm, Helmholtz Centre for Environmental Research - UFZ (Germany)

Tim Kohler, Washington State University (United States)

Keumsook Lee, Sungshin University, Seoul (South Korea)

Jean-Pierre Muller, CIRAD, Montpellier (France)

Denise Pumain, Paris I Géographie-cités UMR 8504 (France) - IUF

Lena Sanders, CNRS Géographie-cités UMR 8504 (France)

Sander van der Leeuw, State University of Arizona (United States)

6 Dates

Submission of abstract (2 pages): June 10, 2009. Email: comin@parisgeo.cnrs.fr

Notification of acceptance: July 1st, 2009

Full paper is expected for the conference. Papers will be evaluated and selected by the Scientific Committee for publication in targeted journals or in a collective book.

Check S4 website (<http://s4.parisgeo.cnrs.fr>) for updated information.