



ABM-S4-ESHIA-2007

Agent Based Models for Spatial Systems in Social Sciences & Economic Science with Heterogeneous Interacting Agents

Agelonde, La Londe les Maures (Var, France), September 17-22, 2007 (6 days).

<http://perso.univ-rennes1.fr/denis.phan/laLonde/>

Contact: ESHIA members: enrico.scalas@mfn.unipmn.it
S4 members and others: arnaud.banos@lorraine.u-strasbg.fr

Deadline for normal (priority) submission of applications: June 4, 2007

Deadline for extended submission of applications: June 22, 2007

Chair : **Denise Pumain** (Géographie cité, University of Paris I, France), **Alan Kirman** (GREQAM University of Aix-Marseille III & EHESS, France) ; *Board of organisation* : **Denis Phan** (GEMAS, CNRS & University of Paris IV-Sorbonne, CREM CNRS & University of Rennes, France), **Arnaud Banos** (Image et Ville, CNRS-ULP, Strasbourg, France), **Enrico Scalas** (East Piedmont University, Alessandria, Italy).

Presentation: The purpose of this School is **to introduce** PhD students, young researchers and senior researchers as well **to the art of modelling Spatial Systems and/or Heterogeneous Interacting Agents by means of Agent-Based models**. This project is organized by both by the European GDR **S4** (*Spatial Simulation for the Social Sciences*), chaired by Denise Pumain and the **ESHIA** « *Society for Economic Science with Heterogeneous Interacting Agents* » chaired by Mauro Gallegati (and co-chaired by Alan Kirman and Masanao Aoki). The School is supported by **GIACS** and the French **CNRS**. The School, in English, is open to researchers in Geography, Economics and other Human and Social Sciences, but also in Applied Mathematics, Statistics, Engineering, Computer Science and Physics. **The School proposes an introduction to the multi-agent methods, principles and concepts for the social and human sciences**. The first goal is informative: **prior training in computer sciences is not required**. For more experienced researchers, a specific workshop will be dedicated to discussion and experience sharing. A book, based on an English translation of large parts of (Amblard, Phan eds. *Simulation et Modélisation Multi-Agents, application aux SHS*, Hermes, 2006) enhanced by some specific contributions will be provided for free to the participants, forthcoming at The Bardwell press, Oxford.

Important Dates

- **Deadline for submission of applications:** (normal) **June 4, 2007** (extended) **June 22, 2007**
- **Notification of acceptance:** **Between June 11 and June 26, 2007**
- **Deadline for registration:** (discounted) **July 6, 2007** (full) **July 12, 2007**
- Participants commit themselves to take active part to all the sessions.

Costs (including accommodation)

- **Academics: 500 euro** (discounted 480 euro for early registration before July, 6, 2007)
- **Non-academics: 750 euro** (discounted 720 euro for early registration before July, 6, 2007)

Special Conditions for GIACS members. Please take contact with: enrico.scalas@mfn.unipmn.it

Du fait du financement de la F.C. CNRS, l'inscription à l'école est gratuite pour les fonctionnaires et salariés du CNRS (CR, DR, Ingénieurs de recherche, post-doctorants...)

Application

Applications for *ESHIA members* must be send to: enrico.scalas@mfn.unipmn.it, with copy to dphan@msh-paris.fr, arnaud.banos@lorraine.u-strasbg.fr

Applications for *S4 members and other applicants* must be send to: arnaud.banos@lorraine.u-strasbg.fr with copy to frederic.amblard@univ-tlse1.fr, enrico.scalas@mfn.unipmn.it, with information on your status, address, academic references, your researches and publications, your web page, and your motivations as well (two or three sentences would be OK). PHD candidates must provide a letter of recommendation from their supervisor.

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Program

Courses and Lectures

Courses and Lectures with (E) will be common to ERG-S4 and ESHIA - MAS = Multi Agent Systems

typical day: 9:00 – 12:30: Course; 16:00 – 19:00: Workshops; 21:00 – 22:00: Lectures

Workshop program available at: <http://perso.univ-rennes1.fr/denis.phan/laLonde/>

Monday, September 17

9:00 – 12:30: Opening talks by Scientific Presidents:

- **Alan Kirman** *Agent-Based Models for Economic Science with Heterogeneous Interacting Agents* (E)
- **Denise Pumain** *Spatial Simulation for the Social Science* (E)

16:00 – 19:00: *Workshops* (1)

21:00 – 22:00: Lecture (1)

- **Sorin Solomon** *Adaptive economic growth emerges from many noisy individual interactions* (E)

Tuesday, September 18

9:00 – 12:30: Courses (1)

- **Jean Pierre Muller** *Introduction to the concepts and methodology of conception in MAS* (E)
- **Michael Batty** *Heterogeneous model coupling in Spatial Simulation* (E)

16:00 – 19:00: *Workshops* (2)

21:00 – 22:00: Lectures (2)

- **Bernard Elissalde** *Modelling and Simulating Spatial Systems: an introduction* (specific ERG S4)
- **Thomas Lux**: *Parameter Estimation in Agent-Based Models* (specific ESHIA)

Wednesday, September 19

9:00 – 12:30: Courses (2)

- **Frederic Amblard** *Validation of agent-based simulations* (E).
- **Juliette Rouchier** *Models to models* (E)
This course will be devoted to the general problem of validating agent-based simulations both by internal controls and by comparison of results with empirical data.
- **Pierre Livet** or **Lena Sanders** *Ontological design for Simulation in Social Sciences* (E)
(with co-author: Denis Phan)

16:00 – 19:00: *Workshops* (3)

21:00 – 22:00: Lectures (3)

- **Robert Axtell** *Agent-Based Simulation for the Social Sciences* (E) (to be confirmed)

Thursday, September 20

9:00 – 12:30: Courses (3)

- **Patrice Langlois** (conference in French, slides in English) *Model coupling for the study of spatial systems : GIS, Cellular Automatas, Agent-based models...* (specific ERG S4)
- to be precised (specific ERG S4)
- **Akira Namatame**: *The theory of interaction and social engineering.* (specific ESHIA)
This course will introduce the students to recent developments in the study of social networks with emphasis on their application to agent-based simulations.
- **Enrico Scalas** *Markov chains and continuous-time random walks* (specific ESHIA)
The purpose of this course is to provide information on tools that could be used for the analytical study of agent-based models. The only necessary prerequisite is knowledge of elementary probability theory.

Free afternoon

21:00 – 22:00

- **Tim Kholer** *Agent-based modelling in Archaeology* (specific ERG S4)
- **Mauro Gallegati**: *Aggregation in Economics* (specific ESHIA)

Friday, September 21

9:00 – 12:30: Courses (4)

- **Jasmina Arifovic**, *Computational mechanism design with heterogeneous, interacting agents*
- **Christophe Deissenberg** *Learning in multi-agents models* (E)

6:00 – 19:00: *Workshops* (4)

21:00 – 22:00: Lecture (4)

- **Jacques Ferber** *The 4Quadrant integral approach of MAS* (E)

Saturday, September 22

9:30 – 12:30 Short presentations by participants

14:00 – 15:30: Final discussion and evaluation

16:00 *Departure*