



Fourth International Workshop
**Engineering Societies
in the
Agents World**

29-31 October 2003

Imperial College London, UK (EU)

<URL:<http://www.oefai.at/~paolo/conf/ESAW03>>

Submission deadline: 17 June, 2003

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Local Organisation

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WHITESTEIN
Technologies

AIMS & SCOPE

Software systems are undergoing dramatic changes in scale and complexity as we approach rapidly the age of micro-cosmic computing, from nanotech scale where single locations are wired with millions of sensors to planetary scale where single applications access global computing power and data resources. At both ends of the scale devices interact to provide increasingly complex, context-aware, and content-adaptive services and functionalities. There follows a strong qualitative impact on the nature, substance, and style of interactions. Patterns and mechanisms will hardly be grasped with classical models of interaction and service-oriented coordination. To a degree, future software systems will more resemble natural systems and societies than past mechanical systems and current software architectures.

This situation challenges to computer scientists and software engineers. Software agents and multi-agent systems (MAS) are already recognised as useful abstractions and effective technologies for the modelling and building of complex distributed applications. Still, little is yet done about effective and methodical development of complex systems in terms of multi-agent societies. An urgent need exists for novel approaches to software modelling and engineering to support the deployment of software systems of massive numbers of autonomous components. Designers must be able to control and predict the behaviour of their systems; but emergent global system properties and runtime discovery of functionalities should also be supported. Such innovations will very likely exploit lessons from many different disciplines, such as organisation science, sociology, economics, modern thermodynamics, and biology. As these systems will be ubiquitous, persistent, and pervasive, we also need frameworks of law to aid their regulation.

The sequel to successful yearly editions since 2000, ESAW'03 shall provide again a platform for animated and highly inter-disciplinary constructive discussions about tools, technologies, and methodologies for engineering of complex distributed applications. The workshop focuses on practical engineering issues, but also welcomes other contributions, provided their relevance for core applied issues is made clear.

TOPICS OF INTEREST therefore include:

- analysis, design, development & verification of agent societies
- very large-scale multi-agent systems
- models of complex distributed systems with agents & societies
- agent societies as norm-governed computational systems
- coordination technologies for the engineering of agent societies
- interaction-coordination patterns in agent societies
- inter-disciplinary approaches to engineering of agent societies
- engineering of social intelligence in multi-agent systems
- indirect programming of multi-agent systems
- centralised vs. decentralised social control
- self-organisation and self-regulation in agent societies
- security, trust, and conflict resolution in agent societies
- middleware infrastructures for agent societies
- applications of entangled behaviour & bizarre systems analysis
- experiences in building and maintaining large agent societies
- evolution of institutions in multi-agent societies
- socio-cognitive and cultural factors in multi-agent societies

WORKSHOP ORGANISATION

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SUBMISSION FORMAT

Contributions should not exceed 12 pages and should be formatted according to the LNCS/LNAI style guide available at <URL:<http://www.springer.de/comp/lncs/authors.html>>. Only electronic submission is allowed. Please see the ESAW'03 webpages at <<http://www.oefai.at/~paolo/conf/ESAW03/>> for further information.

DEADLINES and DATES

Paper submission deadline: **June 17, 2003**

Notifications of acceptance/rejection: July 11, 2003

Revised papers for Workshop Notes: October 1, 2003

ESAW'03 Workshop: October 29-31, 2003

Revisions for LNAI Post-Proceedings: November 15, 2003

Working Notes and Post-Proceedings

Accepted papers will be collected in the ESAW'03 Working Notes. Working Notes with all accepted contributions will be available at the workshop. Extended versions of papers presented at the workshop incorporating the results of the discussions will be published in the workshop's post-proceedings. As in the earlier workshop editions post-proceedings will be published by Springer-Verlag in the Lecture Notes on Artificial Intelligence series (LNAI 1972, 2203 and 2577).

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