Preface

Agreement is one of the crucial social concepts that helps human agents to cope with their social environment and is present in all human interactions. In fact, without agreement there is no cooperation and ultimately social systems cannot emerge. Agreement is necessary in our everyday life.

Until recently, the concept of agreement was a domain of study mainly for philosophers, sociologists and was only applicable to human societies. However, this situation has changed in the recent years, especially with the spectacular emergence of information society technologies. Computer science has moved from the paradigm of an isolated machine to the paradigm of a network of systems and of distributed computing. Likewise, artificial intelligence is quickly moving from the paradigm of an isolated and non-situated intelligence to the paradigm of situated, social and collective intelligence. Hence, the concept of agreement has become key for a robust understanding and an efficient implementation of artificial social systems.

In this context, Agreement Technologies is a new approach of Distributed Artificial Intelligence for constructing large-scale open distributed computer systems. This workshop on Agreement Technologies is specifically addressed for any work that aims at developing models, frameworks, methods and algorithms for constructing such systems. In other words, this workshop focuses on approaches and solutions for the needs of next generation computing systems where autonomy, interaction and mobility will be the key issues. Most importantly, it concentrates on techniques that enable software components to reach agreements on the mutual performance of services.

Agreement Technologies integrates many research efforts from different fields of Artificial Intelligence. Hence, this workshop is specifically tailored to research works related to this new approach. As CAEPIA is the leading Artificial Intelligence conference in Spain, it is a good forum to celebrate this workshop. Finally, the editors would like to thank all the people that bring about WAT and CAEPIA 2009. First of all, thanks to the authors for ensuring the richness of the workshop and the members of the program committee for their professionalism and dedication. Furthermore, we owe particular gratitude to the CAEPIA organizing committee.

Marc Esteva, Alberto Fernandez and Adriana Giret
WAT2009 Organizing Committee

ORGANIZING COMMITTEE

Marc Esteva (Artificial Intelligence Research Institute (IIIA), Spain)
Adriana Giret (Universidad Politécnica de Valencia, Spain)
Alberto Fernández (Universidad Rey Juan Carlos, Spain)

STEERING COMMITTEE

Carles Sierra (IIIA-CSIC, Spain)
Sascha Ossowski (Universidad Rey Juan Carlos, Spain)
Vicente Botti (Universidad Politecnica de Valencia, Spain)

PROGRAM COMMITTEE

Axel Polleres (DERI Galway, Ireland)
Adriana Giret (Universidad Politecnica de Valencia, Spain)
Alberto Fernandez (Universidad Rey Juan Carlos, Spain)
Carlos Ángel Iglesias (Universidad Politécnica de Madrid, Spain)
Carles Sierra (IIIA-CSIC, Spain)
David Pearce (Universidad Politécnica de Madrid, Spain)
Eugénio de Oliveira (Universidade do Porto, Portugal)
Eva Onaindía (Universidad Politecnica de Valencia, Spain)
Frank Dignum (Universiteit Utrecht, The Netherlands)
Helder Coelho (University of Lisbon, Portugal)
Holger Billhardt (Universidad Rey Juan Carlos, Spain)
Juan Antonio Rodriguez-Aguilar (IIIA-CSIC, Spain)
Juan Manuel Serrano (Universidad Rey Juan Carlos, Spain)
Jaelson Castro (Universidade Federal de Pernambuco, Brazil)
Luis Botelho (ISCTE, Lisbon, Portugal)
Maite Lopez-Sanchez (Universitat de Barcelona, Spain)
Marc Esteva (IIIA-CSIC, Spain)
Maria Jose Ramirez (Universidad Politecnica de Valencia, Spain)
Michael Wooldridge (University of Liverpool, UK)
Pablo Noriega (IIIA-CSIC, Spain)
Sascha Ossowski (Universidad Rey Juan Carlos, Spain)
Vicente Julián (Universidad Politecnica de Valencia, Spain)
Vicente Botti (Universidad Politecnica de Valencia, Spain)
Viviane Torres da Silva (Universidade Federal Flumiense, Brazil)
Wamberto Vasconcelos (University of Aberdeen, UK)

Index

1. Negotiation with Price-dependent Probability Models 9
Antonio Bella, César Ferri, José Hernández-Orallo, María José Ramírez-Quintana

2. The THOMAS architecture: A case study in Home Care Scenarios 21
J.A. Fraile Nieto, Sara Rodríguez, Javier Bajo, Juan Manuel Corchado

3. Auction Robustness through Satisfiability Modulo Theories 33
Miquel Bofill, Didac Busquets, Mateu Villaret

4. Self-Adaptive MAS for Biomedical Environments 45
Juan F. De Paz, Sara Rodríguez, Javier Bajo, Juan M. Corchado

5. Agreement Patterns 57
Carlos A. Iglesias, Mercedes Garijo, José I. Fernández-Villamor, José Javier Durán

6. Achieving Mediated Agreements using Agreement Space Modeling 69
Carlos Carrascosa, Miguel Rebollo

7. Reputation-based Agreement for Agent Organisations 82
Ramón Hermoso, Roberto Centeno, Viviane Torres da Silva

8. Towards an abstract architecture for service discovery with semantic alignment 94
Analay Baltá, Alberto Fernández

9. A simulator for a two layer MAS adaptation in P2P networks 106
Jordi Campos, Marc Esteva, Maite López-Sánchez, Javier Morales

10. Agreement Technologies for Adaptive, Service-Oriented Multi-Agent Systems 118
J. Santiago Pérez, Carlos E. Cuesta, Sascha Ossowski

11. Developing Virtual Organizations Using MDD 130
Jorge Agüero, Miguel Rebollo, Carlos Carrascosa, Vicente Julián

12. A Logic Related to Minimal Knowledge 142
David Pearce, Levan Uridia

13. Argumentation-based Distributed Induction 154
Santiago Ontañón, Enric Plaza