Welcome to the printed from CD-rom version of the AAMAS 2005 Proceedings. This publication includes the volumes of the proceedings and industrial track publications.

Editors:
Frank Dignum, Virginia Dignum
Sven Koenig, Sarit Kraus
Michal Pechoucek, Munindar Singh
Donald Steiner, Simon Thompson
Michael Wooldridge

With the collaboration of:
ACM-SIGART
The International Foundation for Multiagent Systems (IFMAS)
The International Workshop on Agents, Theories Architectures and Languages (ATAL)

Volume 1

Printed from CD-ROM with permission of ACM by:
Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571
www.proceedings.com
CSIN: 9999900069
SESSION 1a: embodied, emotional and believable agents
SESSION 2a: collective and emergent behavior
SESSION 3a: learning and emergent behavior
SESSION 4a: coordination and planning

SESSION 1b: learning
SESSION 2b: cooperation I
SESSION 3b: cooperation II
SESSION 4b: agent applications

SESSION 1c: ACL and protocols
SESSION 2c: AOSE I
SESSION 3c: voting
SESSION 4c: trust and reputation I

SESSION 1d: logical foundations I
SESSION 2d: negotiation and agreement I
SESSION 3d: negotiation and agreement II

2005 ACM/SIGART Autonomous Agents Research Award

Conflicts in teamwork: Hybrids to the rescue  (page 3)
M. Tambe (University of Southern California), E. Bowring (University of Southern California), H. Jung (Institute for HumanMachine Cognition), G. Kaminka (Bar Ilan University), R. Maheswaran (University of Southern California), J. Marecki (University of Southern California), P.J. Modi (Carnegie Mellon University), R. Nair (Honeywell Laboratories), S. Okamoto (Carnegie Mellon University), J.P. Pearce (University of Southern California), P. Paruchuri (University of Southern California), D. Pynadath (University of Southern California), P. Scerri (Carnegie Mellon University), N. Schurr (University of Southern California), P. Varakantham (University of Southern California)

PAPERS

SESSION 1a: embodied, emotional and believable agents I

The Use of Emotions to create Believable Agents in a Virtual Environment  (page 13)
Karthi Selvarajah (Macquarie University), Debbie Richards (Macquarie University)

Thespian: Using Multi-Agent Fitting to Craft Interactive Drama  (page 21)
Mei Si (USC Information Sciences Institute), Stacy Marsella (USC Information Sciences Institute), David Pynadath (USC Information Sciences Institute)

ALMA - Layered Model of Affect  (page 29)
Patrick Gebhard (DFKI)

Believable Groups of Synthetic Characters  (page 37)
Prada Rui (IST-UTL and INESC-ID), Ana Paiva (INESC-ID)
Exploiting a Sensed Environment to Improve Human-Agent Communication  (page 44)
Shana Watters (University of Minnesota), Tim Miller (University of Minnesota), Praveen Balachandran (University of Minnesota), William E. Schuler (University of Minnesota), Richard Voyles (University of Minnesota)

SESSION 1b: learning

Behavior Transfer for Value-Function-Based Reinforcement Learning  (page 53)
Matthew Taylor (The University of Texas at Austin), Peter Stone (The University of Texas at Austin)

Efficient Learning of Multi-step Best Response  (page 60)
Bikramjit Banerjee (Tulane University), Jing Peng (Tulane University)

Rapid On-line Temporal Sequence Prediction by an Adaptive Agent  (page 67)
Steven Jensen (University of Minnesota), Daniel Boley (University of Minnesota), Maria Gini (University of Minnesota), Paul Schrater (University of Minnesota)

Theory of Moves Learners: Towards Non-Myopic Equilibria  (page 74)
Arjita Ghosh (University of Tulsa), Sandip Sen (University of Tulsa)

Multi-Agent Reward Analysis for Learning in Noisy Domains  (page 81)
Adrian Agogino (NASA Ames Research Center), Kagan Tumer (NASA Ames Research Center)

SESSION 1c: ACL and protocols

A Formal Framework for Agent Interaction Semantics  (page 91)
Shamimabi Paurobally (University of Liverpool), Jim Cunningham (Imperial College of Science), Nicholas Jennings (University of Southampton)

Towards Design Tools for Protocol Development  (page 99)
Pinar Yolum (Bogazici University)

Acquiring and Adapting Probabilistic Models of Agent Conversation  (page 106)
Felix Fischer (Technical University of Munich), Michael Rovatsos (University of Edinburgh), Gerhard Weiss (Technical University of Munich)

Using a Performative Subsumption Lattice to Support Commitment-based Conversations  (page 114)
Rob Kremer (University of Calgary), Roberto Flores (Christopher Newport University)

Modeling Exceptions via Commitment Protocols  (page 122)
Ashok Mallya (North Carolina State University), Munindar P. Singh (North Carolina State University)

SESSION 1d: logical foundations I

Semantics of Declarative Goals in Agent Programming  (page 133)
M. Birma van Riemsdijk (Utrecht University), Mehdi Dastani (Utrecht University), John-Jules Meyer (Utrecht University)
Dynamic Epistemic Logic with Assignment  (page 141)
Hans P van Ditmarsch (University of Otago), Wiebe van der Hoek (University of Liverpool), Barteld P Kooi (University of Groningen)

A Computationally Grounded Logic of Knowledge, Belief and Certainty  (page 149)
Kaile Su (Griffith University), Abdul Sattar (Griffith University), Guido Governatori (University of Queensland), Qingliang Chen (Sun Yat-sen University)

A Logic for Strategic Reasoning  (page 157)
Wiebe van der Hoek (University of Liverpool), Wojciech Jamroga (Clausthal University of Technology), Michael Wooldridge (University of Liverpool)

Bounded Model Checking for Knowledge and Real Time  (page 165)
Bozena Wozna (University College London), Alessio Lomuscio (University College London), Penczek Wojciech (ICS PAS Podlasie Academy)

SESSION 2a: collective and emergent behavior

A Multiagent System Manages Collaboration in Emergent Processes  (page 175)
John Debenham (University of Technology Sydney)

Towards a Theory of "Local to Global" in Distributed Multi-Agent Systems (I)  (page 183)
Yamins Daniel (Harvard University)

Towards a Theory of "Local to Global" in Distributed Multi-Agent Systems (II)  (page 191)
Yamins Daniel (Harvard University)

Using Emergence in Participatory Simulations to Design Multi-Agent Systems  (page 199)
Paul Guyot (Université Pierre et Marie Curie), Alexis Drogoul (LIP 6), Christian Lemaitre (SMIA SMCC)

SESSION 2b: cooperation I

Formation of Cooperation Structure by Interaction Network in Directed MultiAgent  (page 207)
Kosuke Sekiyama (University of Fukui), Yukihisa Okade (University of Fukui)

Kaa: Policy-based Explorations of a Richer Model for Adjustable Autonomy  (page 214)
Jeffrey M. Bradshaw (Florida Institute for Human and Machine Cognition), Hyuckchul Jung (Florida Institute for Human and Machine Cognition), Shri Kulkarni (Florida Institute for Human and Machine Cognition), Matthew Johnson (Florida Institute for Human and Machine Cognition), Paul Feltsovich (Florida Institute for Human and Machine Cognition), James Allen (Florida Institute for Human and Machine Cognition), Larry Bunch (Florida Institute for Human and Machine Cognition), Nathanael Chambers (Florida Institute for Human and Machine Cognition), Lucian Galescu (Florida Institute for Human and Machine Cognition), Renia Jeffers (Florida Institute for Human and Machine Cognition), Niranjan Suri (Florida Institute for Human and Machine Cognition), William Taysom (Florida Institute for Human and Machine Cognition), Andrzej Uszok (Florida Institute for Human and Machine Cognition)

MultiAgent Decision Support Via User-Modeling  (page 222)
Terrence Harvey (University of Delaware), Keith Decker (University of Delaware), Sandra Carberry (University of Delaware)
Agent-Organized Networks for Dynamic Team Formation  
Matthew Gaston (University of Maryland Baltimore County), Marie desJardins (University of Maryland Baltimore County)

SESSION 2c: AOSE I

Optimal Design in Collaborative Design Network  (page 241)  
Yang Xiang (University of Guelph), Junjiang Chen (University of Guelph), Bill Havens (Simon Fraser University)

Diagnosing a Team of Agents: Scaling-Up  (page 249)  
Meir Kalech (Bar-Ilan University), Gal Kaminka (Bar-Ilan University)

S-Assess: A Library for Behavioral Self-Assessment  (page 257)  
Scott Wallace (Washington State University Vancouver)

IDReAM: Intrusion Detection and Response executed with Agent Mobility Architecture and Implementation  (page 264)  
Noria Foukia (USC Information Sciences Institute)

SESSION 2d: negotiation and agreement I

On Possibilistic Case-based Reasoning for Selecting Partners for Multi-attribute Agent Negotiation  (page 273)  
Jakub Brzostowski (Swinburne University of Technology), Ryszard Kowalczyk (Swinburne University of Technology)

Modeling Complex Multi-Issue Negotiations Using Utility Graphs  (page 280)  
Valentin Robu (Dutch National Center for Mathematics and CS), Koye Somefun (CWI), Han La Poutre (Dutch National Center for Mathematics and CS)

Negotiation Mechanism for TAC SCM Component Market  (page 288)  
Dongmo Zhang (University of Western Sydney)

Negotiating over Small Bundles of Resources  (page 296)  
Yann Chevaleyre Dauphine University), Ulle Endriss (Imperial College London), Jérôme Lang (Universite Paul Sabatier), Nicolas Maudet (University of Paris-Dauphine)

SESSION 3a: learning and emergent behavior

Global Convergence of Local Agent Behaviors  (page 305)  
Van Parunak (Altarum Institute), Sven Brueckner (Altarum Institute), John Sauter (Altarum Institute), R. Matthews (Altarum Institute)

Emerging Collective Behavior in a Simple Artificial Financial Market  (page 313)  
Roberto da Silva (Federal University of Minas Gerais), Ana Bazzan (Universidade Federal do Rio Grande do Sul), Alexandre Baraviera (Universidade Federal do Rio Grande do Sul), Silvio Dahmen (Universidade Federal do Rio Grande do Sul)

Approximating State Estimation in Multiagent Settings Using Particle Filters  (page 320)  
Prashant Doshi (University of Illinois at Chicago), Piotr Gmytrasiewicz (University of Illinois at Chicago)
SESSION 3b: cooperation II

Automated Resource-Driven Mission Phasing Techniques for Constrained Agents  (page 331)
Jianhui Wu (University of Michigan), Edmund Durfee (University of Michigan)

A Comparative Evaluation of Agent Location Mechanisms in Large Scale MAS  (page 339)
David Ben Ami (Technion Israel Institute of Technology), Onn Shehory (IBM Haifa Research Labs)

Effect of referrals on convergence to satisficing distributions  (page 347)
Teddy Candale (University of Tulsa), Sandip Sen (University of Tulsa)

SESSION 3c: voting

Decentralized Voting with Unconditional Privacy  (page 357)
Felix Brandt (Stanford University), Tuomas Sandholm (Carnegie Mellon University)

Voting Policies that Cope with Unreliable Agents  (page 365)
Christian Guttmann (Monash University), Ingrid Zukerman (Monash University)

Formalization of a Voting Protocol for Virtual Organizations  (page 373)
Jeremy Pitt (Imperial College London), Lloyd Kamara (Imperial College London), Marek Sergot (Imperial College London), Alexander Artikis (Imperial College London)

SESSION 3d: negotiation and agreement II

Adapting to Agents' Personalities in Negotiation  (page 383)
Shavit Talman (Bar-Ilan University), Yakov Gal (Harvard University), Meirav Hadad (Haifa University), Sarit Kraus (Bar-Ilan University)

Bumping Strategies for the Multiagent Agreement Problem  (page 390)
Pragnesh Jay Modi (Carnegie Mellon University), Manuela Veloso (Carnegie Mellon University)

Modeling Opponent Decision in Repeated One-shot Negotiations  (page 397)
Sabyasachi Saha (University of Tulsa), Anish Biswas (University of Tulsa), Sandip Sen (University of Tulsa)

SESSION 4a: coordination and planning

An Integrated Token-Based Algorithm for Scalable Coordination  (page 407)
Yang Xu (University of Pittsburgh), Paul Scerri (Carnegie Mellon University), Bin Yu (Carnegie Mellon University), Steven Okamoto (Carnegie Mellon University), Michael Lewis (University of Pittsburgh), Katia Sycara (Carnegie Mellon University)

Programming Stigmergic Coordination with the TOTA Middleware  (page 415)
Marco Mamei (University of Modena & Reggio Emilia), Franco Zambonelli (University of Modena & Reggio Emilia)

Tactical coordination in no-press Diplomacy  (page 423)
Stefan Johansson (Blekinge Institute of Technology), Fredrik Håård (Blekinge Institute of Technology)
Multiagent Coordination by Extended Markov Tracking (page 431)
Zinovi Rabinovich (Hebrew University), Jeffrey Rosenschein (Hebrew University)

Coordination and Composition in Multi-Agent Systems (page 439)
Mehdi Dastani (Utrecht University), Farhad Arbab (CWI), Frank de Boer (CWI)

SESSION 4b: agent applications

Towards a Behavioural Traffic Monitoring System (page 449)
Marco Rigolli (University of Oxford), Mike Brady (University of Oxford)

An Earth Watching Satellite Constellation: How to Manage a Team of Watching Agents with Limited Communications (page 455)
Sylvain Damiani (ONERA/DCSD/CD), Gérard Verfaillie (LAAS-CNRS), Marie-Claire Charmeau (CNES)

Using Cooperative Mediation to Coordinate Traffic Lights: a Case Study (page 463)
Denise de Oliveira (Universidade Federal do Rio Grande do Sul), Ana Bazzan (Universidade Federal do Rio Grande do Sul), Victor Lesser (University of Massachusetts Amherst)

Multiagent Traffic Management: An Improved Control Mechanism (page 471)
Kurt Dresner (The University of Texas at Austin), Peter Stone (The University of Texas at Austin)

Smooth Traffic Flow with a Cooperative Car Navigation System (page 478)
Tomohisa Yamashita (Information Technology Research Institute Na), Kiyoshi Izumi (AIST), Koichi Kurumatani (AIST), Hideyuki Nakashima (Future University)

SESSION 4c: trust and reputation I

Task Delegation using Experience-Based Multi-Dimensional Trust (page 489)
Nathan Griffiths (University of Warwick)

An Information-Based model for Trust (page 497)
Carles Sierra (IIIA-CSIC), John Debenham (University of Technology Sydney)

Towards a Functional Ontology of Reputation (page 505)
Sara Casare (University of Sao Paulo), Jaime Sichman (University of Sao Paulo)

A Specification of the Agent Reputation and Trust (A R T) Testbed: Experimentation and Competition for Trust in Agent Societies (page 512)
Karen K. Fullam (University of Texas at Austin), Tomas B. Klos (Center for Mathematics and Computer Science), Guillaume Muller (ENS - Mines of Saint-Etienne), Jordi Sabater (ISTC-CNR), Andreas Schlosser (Darmstadt University of Technology), Zvi Topol (Hebrew University), K. Suzanne Barber (University of Texas at Austin), Jeffrey Rosenschein (Hebrew University), Laurent Vercouter (Ecole NS des Mines de St-Etienne), Marco Voss (IT Transfer Office Darmstadt Technical University)

Agent-Based Trust Model Involving Multiple Qualities (page 519)
E. Michael Maximilien (IBM and North Carolina State University), Munindar P. Singh (North Carolina State University)