



The 18th Conference on Principles and Practice of Multi-Agent Systems

Bertinoro, 26-30 October 2015

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Bertinoro Center for Informatics (BiCi)



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Society for the study of Artificial Intelligence and Simulation of Behaviour (AISB)

PRIMA 2015 Programme at a glance

Sunday, October 25: welcome

19:50-22:00 Welcome buffet

Monday, October 26: workshops and tutorials @ bishop's fortress

9:00-10:45 **Tutorial: Engineering Agent Applications in QuLog @ frescoed hall**
(lecturer: Keith Clark)

11:15-13:00 **Tutorial: Normative MAS and the Law @ frescoed hall**
(lecturers: Leon van der Torre, Livio Robaldo, Nino Rotolo, and Guido Governatori)

14:00-18:00 **Workshop: Empathic Computing (IWECE-15) @ frescoed hall**
(organizers: Masayuki Numao, Merlin Teodosia Suarez, The Duy Bui, and Ma. Mercedes Rodrigo)

9:30-18:00 **Workshop: Computational Models of Natural Argument (CMNA-15) @ red hall**
(organizers: Floriana Grasso, Floris Bex, and Nancy Green)

19:30-22:00 Dinner at Enoteca Bistrot Colonna in Bertinoro

Tuesday, October 27: social agents @ theatre hall

9:00-9:30 Opening (chair: Andrea Omicini)

9:30-10:30 **K1) ECCAI keynote talk (chair: Paolo Torroni)**

09:30 **Michael Mäs: What can social-influence models teach us about the design of personalized recommender systems?**

10:30-11:00 Coffee break at ex-monastery cloister

11:00-12:40 **S2) social networks & trust (chair: Toshihiro Matsui)**

11:00 A Micro Study on the Evolution of Arguments in Amazon.com's Reviews
(Simone Gabbriellini and Francesco Santini)

11:20 Kinetic Description of Opinion Evolution in Multi-Agent Systems: Analytic Model and Simulations
(Stefania Monica and Federico Bergenti)

11:30 Norm Establishment in a Single Dimension Axelrod Model
(Vinay Katiyar and David Clarence)

11:50 Checking The Reliability of Information Sources in Recommendation Based Trust Decision Making
(Kamilia Ahmadi and Vicki Allan)

12:10 Fair Assessment of GroupWork by Mutual Evaluation with Irresponsible and Collusive Students
Using Trust Networks (Yumemo Shiba, Haruna Umegaki and Toshiharu Sugawara)

12:20 Dynamic Coalition Formation in Micro-grids
(Muhammad Yasir, Martin Purvis, Maryam Purvis and Bastin Tony Roy Savarimuthu)

12:40-14:00 Lunch break at canteen

14:00-15:20 **S3) social mechanisms: norms and economics (chair: Nils Bulling)**

14:00 The Long-term Benefits of Following Fairness Norms: A Game-theoretic Analysis
(Emiliano Lorini and Roland Mühlenbernd)

14:20 Compliant Business Processes with Exclusive Choices from Agent Specification
(Francesco Olivieri, Matteo Cristani and Guido Governatori)

14:30 Majoritarian Group Actions
(Daniele Porello)

14:50 Strategy-proof Cake Cutting Mechanisms for the All-or-nothing Utility
(Takamasa Ihara, Shunsuke Tsuruta, Taiki Todo, Yuko Sakurai and Makoto Yokoo)

15:10 A Double Auction Mechanism for On-Demand Transport Networks
(Malcolm Egan, Martin Schaefer, Michal Jakob and Nir Oren)

15:20-15:50 Coffee, posters & demos at ex-monastery cloister

15:50-17:00 **S4) communication, argumentation & dialogue (chair: Floriana Grasso)**

15:50 Towards a Taxonomy of Task-oriented Domains of Dialogue
(Tânia Marques)

16:00 Using Preferences in Negotiations over Ontological Correspondences
(Terry Payne and Valentina Tamma)



- 16:20 Introducing Preference-Based Argumentation to Inconsistent Ontological Knowledge Bases
(Madalina Croitoru, Rallou Thomopoulos and Srdjan Vesic)
- 16:30 Paraconsistent Multi-party Persuasion in \TalkLog
(Barbara Dunin-Keplicz and Alina Strachocka)
- 16:50 Mechanism Design for Argumentation-based Information-seeking and Inquiry
(Xiuyi Fan and Francesca Toni)

17:00-17:50 **D5) panel on practical/industrial applications of agent technology (chair: Guido Governatori)**

19:30-22:00 **Dinner at canteen**

Wednesday, October 28: teamwork @ theatre hall

9:00-10:30 **S6) collaboration & collective behaviour (chair: Toshiharu Sugawara)**

- 09:00 Potential of Heterogeneity in Collective Behaviors: A Case Study on Heterogeneous Swarms
(Daniela Kengyel, Heiko Hamann, Payam Zahadat, Gerald Radspieler, F. Wotawa and T. Schmickl)
- 09:20 Collaborative Judgement
(Ewa Andrejczuk, Juan Antonio Rodriguez-Aguilar and Carles Sierra)
- 09:30 Multi-Agent Path Planning in Known Dynamic Environments
(Aniello Murano, Giuseppe Perelli and Sasha Rubin)
- 09:50 Social Continual Planning in Open Multiagent Systems: a First Study
(Matteo Baldoni, Cristina Baroglio and Roberto Micalizio)
- 10:00 Modeling the Effects of Personality on Team Formation in Self-assembly Teams
(Mehdi Farhangian, Martin Purvis, Maryam Purvis and Bastin Tony Roy Savarimuthu)
- 10:10 Solving F3MDPs : Collaborative Multiagent Markov Decision Processes with Factored Transitions, Rewards and Stochastic Policies (Julia Radoszycki, Nathalie Peyrard and Régis Sabbadin)

10:30-11:00 **Coffee, posters & demos at ex-monastery cloister**

11:00-12:30 **S7) optimization & crowdsourcing (chair: Francesco Santini)**

- 11:00 Managing Autonomous Mobility on Demand Systems for Better Passenger Experience
(Wen Shen and Cristina Lopes)
- 11:20 Towards Systematic Evaluation of Multi-agent Systems in Large Scale and Dynamic Logistics
(Rinde R.S. van Lon and Tom Holvoet)
- 11:40 Leximin Asymmetric Multiple Objective DCOP on Factor Graph (Toshihiro Matsui, Marius Silaghi, Tenda Okimoto, Katsutoshi Hirayama, Makoto Yokoo and Hiroshi Matsuo)
- 12:00 Adaptive Multi-Stage Optimisation for EV Charging Integration into Smart Grid Control
(Christopher-Eyk Hrabia, Tobias Küster, Marcus Voß, Francisco D. Pozo Pardo and Sahin Albayrak)
- 12:10 Flexible Reward Plans for Crowdsourced Tasks
(Yuko Sakurai, Masato Shinoda, Satoshi Oyama and Makoto Yokoo)

12:30-13:40 **Lunch break at canteen**

13:50-23:00 **Social trip to Ravenna followed by social dinner at the renown Casa Artusi restaurant in Forlimpopoli**

Thursday, October 29: engineering @ theatre hall

9:00-10:00 **K8) keynote talk (chair: Qingliang Chen)**

09:00 **Franco Zambonelli:**
Coordination in Urban-scale Heterogeneous Multiagent Systems

10:00-10:30 **S9) programming & applications 1 (chair: Koen Hindriks)**

- 10:00 Multi-agent Systems Meet Aggregate Programming: Towards a Notion of Aggregate Plan
(Mirko Viroli, Danilo Pianini, Alessandro Ricci, Pietro Brunetti and Angelo Croatti)
- 10:20 Agent-Oriented Programming Languages as a High-Level Abstraction for the Development of Intelligent Behaviours for WSN Applications (Sean Russell, Rem Collier and Gregory O'Hare)

10:30-11:00 **Coffee break at ex-monastery cloister**

11:00-12:30 **S10) programming & applications 2 (chair: Andrea Omicini)**

- 11:00 Reflecting on Agent Programming with AgentSpeak(L)
(Rem Collier, Sean Russell and David Lillis)
- 11:20 Probabilistic Perception Revision in AgentSpeak(L)
(Francisco Coelho and Vitor Nogueira)
- 11:30 Designing a Source-Level Debugger for Cognitive Agent Programs
(Vincent Koeman and Koen Hindriks)
- 11:50 Exploiting Social Commitments in Programming Agent Interaction
(Matteo Baldoni, Cristina Baroglio, Federico Capuzzimati and Roberto Micalizio)
- 12:00 Commitments, Expectations, Affordances and Susceptibilities: Towards Positional Agent Programming (Giovanni Sileno, Alexander Boer and Tom Van Engers)

12:10 An Agent-based Model to Study Effects of Team Processes on Compliance with Safety Regulations at an Airline Ground Service Organization (Alexei Sharpanskykh and Rob Haest)

12:20 Design Patterns for Environments in Multi-agent Simulations
(Philippe Mathieu, Sebastien Picault and Yann Secq)

12:30-13:40 Lunch break at canteen

13:40-15:10 **S11) verification, logics & games (chair: François Schwartzentruber)**

13:40 Verification of Asynchronous Mobile-Robots in Partially-Known Environments
(Sasha Rubin, Florian Zuleger, Aniello Murano and Benjamin Aminof)

14:00 Module Checking for Uncertain Agents
(Wojtek Jamroga and Aniello Murano)

14:20 Security Games with Ambiguous Beliefs of Agents
(Hossein Khani and Mohsen Afsharchi)

14:30 Model Checking Resource Bounded Systems with Shared Resources via Alternating Büchi Pushdown Systems (Nils Bulling and Hoang Nga Nguyen)

14:40 Checking WELTLK Properties of Weighted Interpreted Systems via SMT-based Bounded Model Checking (Agnieszka Zbrzezny and Andrzej Zbrzezny)

14:50 A Dynamic-logical Characterization of Solutions in Sight-limited Extensive Games
(Chanjuan Liu, Fenrong Liu and Kaile Su)

15:10-15:40 Coffee, posters & demos at ex-monastery cloister

15:40-17:00 **S12) programming & applications 3 (chair: Matteo Baldoni)**

15:40 Supporting Human-Robot Teams in Space Missions using ePartners and Formal Abstraction Hierarchies (Tibor Bosse, Jurriaan van Diggelen, Mark Neerincx and Nanja Smets)

16:00 CAMP-BDI: A Pre-emptive Approach for Plan Execution Robustness in Multiagent Systems
(Alan White, Austin Tate and Michael Rovatsos)

16:20 Optimizing Long-running Action Histories in the Situation Calculus through Search
(Christopher Ewin, Adrian Pearce and Stavros Vassos)



16:40 Programming Deliberation Strategies in Meta-APL
(Sam Leask and Brian Logan)

17:00-17:40 **D13) Discussion: future of PRIMA and special issues (chair: Aditya Ghose)**

19:30-22:00 Dinner at the Cà de Be' restaurant in Bertinoro

Friday, October 30: agent logics and reasoning @ theatre hall

9:00-10:00 **K14) keynote talk (chair: Serena Villata)**

09:00 **Marc Cavazza:**

Brain-Computer Interfacing to Agents

10:00-10:30 **S15) cognitive agents and agent logics (chair: Leon van der Torre)**

10:00 Integrating Conversation Trees and Cognitive Models within an ECA for Aggression De-escalation Training (Tibor Bosse and Simon Provoost)

10:10 Games with Communication: From Belief to Preference Change
(Guillaume Aucher, Bastien Maubert, Sophie Pinchinat and Francois Schwarzentruber)



10:20 Real-Time Conditional Commitment Logic (Warda El Kholy, Mohamed El Menshawy, Amine Laarej, Jamal Bentahar, Faisal Al-Saqqar and Rachida Dssouli)

10:30-11:00 Coffee, posters & demos at ex-monastery cloister

11:00-12:00 **S16) reasoning with preferences (chair: Qingliang Chen)**

11:00 Multi-context Systems with Preferences
(Tiep Le, Tran Cao Son and Enrico Pontelli)

11:20 Semantics for Modelling Reason-based Preferences
(Erica Calardo, Guido Governatori and Antonino Rotolo)

11:40 On the Hierarchical Nature of Partial Preferences
(Luigi Sauro)

12:00-12:30 **Closing ceremony**

12:30-13:40 Lunch at canteen