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# PRIMA 2016: Principles and Practice of Multi-Agent Systems

19th International Conference  
Phuket, Thailand, August 22–26, 2016  
Proceedings

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# Preface

Welcome to the proceedings of the 19th International Conference on Principles and Practice of Multi-Agent Systems (PRIMA 2016) held in Phuket, Thailand, during August 22–26, 2016.

Started as an Asia-Pacific workshop in 1998 and run as a full conference since 2009, PRIMA has become one of the leading and influential scientific conferences for research on multi-agent systems. Each year, PRIMA brings together researchers, developers, and practitioners from academia and industry to showcase research in several domains, ranging from foundations of agent theory and engineering aspects of agent systems, to emerging interdisciplinary areas of agent-based research. Previous successful editions were held in Nagoya, Japan (2009), Kolkata, India (2010), Wollongong, Australia (2011), Kuching, Malaysia (2012), Dunedin, New Zealand (2013), Gold Coast, Australia (2014), and Bertinoro, Italy (2015).

The 2016 edition was a special one for a number of reasons. (1) To foster a larger Asia-Pacific community, it was co-located with the 14th Pacific Rim International Conference on Artificial Intelligence (PRICAI 2016). (2) To foster interdisciplinarity, we ran a *social science* track, whose accepted papers will be fast-tracked into the *Journal of Artificial Societies and Social Simulation*. (3) To foster student participation, we ran a special *student session* track. Student authors of accepted papers received free registration for the conference.

We received 50 full paper submissions from 22 countries. Each submission was carefully reviewed by at least three members of the Program Committee (PC) composed of 107 prominent international researchers. The review period was followed by PC discussions moderated by Senior Program Committee (SPC) members. The PRIMA SPC has been part of the PRIMA reviewing scheme since 2010, and this year it included 21 members. At the end of the reviewing process, in addition to the technical reviews, each paper received a summary meta-review by an SPC member. The PC and SPC were truly international, involving researchers from 28 countries.

PRIMA 2016 accepted 17 full papers, giving an acceptance rate of 34 %; 16 papers are included in this volume. Moreover, the volume contains three extended abstracts, accepted for the presentation in the social science track, and nine promising early innovation short papers. Further, we accepted seven submissions for the student session track. In addition to paper presentation sessions, the conference also ran a workshop, a mini-school, and three keynote talks.

We would like to thank all the individuals, institutions, and sponsors who supported PRIMA 2016. We thank the authors for submitting high-quality research papers, confirming PRIMA's reputation as a leading international conference in multi-agent systems. We are indebted to our SPC and PC members and additional reviewers for writing insightful reviews and recommendations for the submissions. We are grateful to members of the PRIMA 2016 Organizing Committee, who worked behind the scenes

to make PRIMA 2016 successful. These include the social science track chair, Michael Mäs; workshop chairs, Jamal Bentahar and Masayuki Numao; publications chair, Neil Yorke-Smith; publicity chairs, Nadin Kökciyan and Tenda Okimoto; mini-school chairs, Bo An and William Yeoh; Web chair, Federico Capuzzimati; finance chairs, Chutima Beokhaimook, Choermath Hongakkaraphan, and Nongnuch Ketui; and the local organizing chairs, Jantima Polpinij, Virach Sortlertlamvanich, Thepchai Supnithi, Nattapong Tongtep, and Rattana Wetprasit. We thank Enrico Pontelli, Pradeep Varakantham, Makoto Yokoo, and Aditya Ghose for holding tutorials in the mini-school; we also thank Jörg P. Müller, Phan Minh Dung, and Toru Ishisa for the keynotes. Special thanks to some individuals who have consistently supported this conference, in particular the senior advisers of PRIMA 2016, Aditya Ghose, Guido Governatori, and Makoto Yokoo.

We are grateful to Elsevier's *Artificial Intelligence* and the International Foundation for Autonomous Agents and Multiagent Systems for sponsoring PRIMA 2016. We thank the journal of *Autonomous Agents and Multi-Agent Systems*, *ACM Transactions on Autonomous and Adaptive Systems*, *Fundamenta Informaticae*, and the *International Journal of Agent-Oriented Software Engineering* for agreeing to fast track selected papers. We also thank EasyChair for the use of their conference management system. Finally, we thank Springer for publishing the conference proceedings.

We hope you enjoy the proceedings!

August 2016

Matteo Baldoni  
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# Contents

## Invited Papers

Intercultural Collaboration and Support Systems: A Brief History . . . . .	3
<i>Toru Ishida</i>	
Argumentation for Practical Reasoning: An Axiomatic Approach . . . . .	20
<i>Phan Minh Dung</i>	

## Regular Papers

Argumentation-Based Semantics for Logic Programs with First-Order Formulae . . . . .	43
<i>Phan Minh Dung, Tran Cao Son, and Phan Minh Thang</i>	
Resistance to Corruption of General Strategic Argumentation . . . . .	61
<i>Michael J. Maher</i>	
Spread of Cooperation in Complex Agent Networks Based on Expectation of Cooperation . . . . .	76
<i>Ryosuke Shibusawa, Tomoaki Otsuka, and Toshiharu Sugawara</i>	
Semantic Reasoning with Uncertain Information from Unreliable Sources . . .	92
<i>Murat Şensoy, Lance Kaplan, and Geeth de Mel</i>	
A Collaborative Framework for 3D Mapping Using Unmanned Aerial Vehicles. . . . .	110
<i>Patrick Doherty, Jonas Kvarnström, Piotr Rudol, Marius Wzorek, Gianpaolo Conte, Cyrille Berger, Timo Hinzmann, and Thomas Stastny</i>	
Heuristics on the Data-Collecting Robot Problem with Immediate Rewards. . .	131
<i>Zhi Xing and Jae C. Oh</i>	
Verifying Real-Time Properties of Multi-agent Systems via SMT-Based Bounded Model Checking . . . . .	149
<i>Agnieszka M. Zbrzezny and Andrzej Zbrzezny</i>	
Balancing Rationality and Utility in Logic-Based Argumentation with Classical Logic Sentences and Belief Contraction. . . . .	168
<i>Ryuta Arisaka and Ken Satoh</i>	
Individually Rational Strategy-Proof Social Choice with Exogenous Indifference Sets . . . . .	181
<i>Mingyu Guo, Yuko Sakurai, Taiki Todo, and Makoto Yokoo</i>	

Offer Evaluation and Trade-Off Making in Automated Negotiation Based on Intuitionistic Fuzzy Constraints. . . . .	197
<i>Jieyu Zhan and Xudong Luo</i>	
Analyzing Topics and Trends in the PRIMA Literature . . . . .	216
<i>Hoa Khanh Dam and Aditya Ghose</i>	
Sequence Semantics for Normative Agents. . . . .	230
<i>Guido Governatori, Francesco Olivieri, Erica Calardo, Antonino Rotolo, and Matteo Cristani</i>	
Revenue Maximizing Markets for Zero-Day Exploits. . . . .	247
<i>Mingyu Guo, Hideaki Hata, and Ali Babar</i>	
Distant Group Responsibility in Multi-agent Systems. . . . .	261
<i>Vahid Yazdanpanah and Mehdi Dastani</i>	
Competitive VCG Redistribution Mechanism for Public Project Problem . . . .	279
<i>Mingyu Guo</i>	
Coalition Structure Formation Using Anytime Dynamic Programming . . . . .	295
<i>Narayan Changder, Animesh Dutta, and Aditya K. Ghose</i>	
<b>Early Innovation Short Papers</b>	
Demand Response Integration Through Agent-Based Coordination of Consumers in Virtual Power Plants . . . . .	313
<i>Anders Clausen, Aisha Umair, Zheng Ma, and Bo Nørregaard Jørgensen</i>	
A Multi Agent System for Understanding the Impact of Technology Transfer Offices in Green-IT . . . . .	323
<i>Christina Herzog, Jean-Marc Pierson, and Laurent Lefèvre</i>	
Modeling Organizational and Institutional Aspects in Renewable and Natural Resources Management Context . . . . .	333
<i>Islem Hènane, Sameh Hadouaj, Khaled Ghédira, and Ali Ferchichi</i>	
Generalising Social Structure Using Interval Type-2 Fuzzy Sets . . . . .	344
<i>Christopher K. Frantz, Bastin Tony Roy Savarimuthu, Martin K. Purvis, and Mariusz Nowostawski</i>	
Argumentation Versus Optimization for Supervised Acceptability Learning. . .	355
<i>Hiroyuki Kido</i>	

Towards Better Crisis Management in Support Services Organizations  
Using Fine Grained Agent Based Simulation . . . . . 366  
*Vivek Balaraman, Harshal Hayatnagar, Meghendra Singh,  
and Mayuri Duggirala*

Plan Failure Analysis: Formalization and Application in Interactive  
Planning Through Natural Language Communication . . . . . 376  
*Chitta Baral, Tran Cao Son, Michael Gelfond, and Arindam Mitra*

Automatic Evacuation Management Using a Multi Agent System  
and Parallel Meta-Heuristic Search . . . . . 387  
*Leonel Aguilar, Maddegedara Lalith, Tsuyoshi Ichimura,  
and Muneo Hori*

Dialectical Proof Procedures for Probabilistic Abstract Argumentation . . . . . 397  
*Phan Minh Thang*

Erratum to: PRIMA 2016: Principles and Practice of Multi-Agent Systems. . . . . E1  
*Matteo Baldoni, Amit K. Chopra, Tran Cao Son, Katsutoshi Hirayama,  
and Paolo Torroni*

**Social Science Extended Abstracts**

Summary of “How, When and Where Can Spatial Segregation Induce  
Opinion Polarization? Two Competing Models”: Paper Under Review  
as JASSS Fast Track Submission . . . . . 409  
*Thomas Feliciani, Andreas Flache, and Jochem Tolsma*

Can Noise in Behavioral Models Improve Macro-Predictions?  
An Empirical Test. . . . . 411  
*Michael Mäs and Dirk Helbing*

Ali Baba and the Thief, Convention Emergence in Games . . . . . 413  
*Xin Sun and Livio Robaldo*

**Author Index** . . . . . 417