

Chairs' Welcome

The Autonomous Agents and Multiagent Systems (AAMAS) conference series gathers researchers from around the world to share the latest advances in the field. It is the premier forum for research in the theory and practice of autonomous agents and multiagent systems. AAMAS 2002, the first of the series, was held in Bologna, followed by Melbourne (2003), New York (2004), Utrecht (2005), Hakodate (2006), Honolulu (2007), Estoril (2008), Budapest (2009), Toronto (2010), Taipei (2011), Valencia (2012), Saint Paul (2013), Paris (2014), Istanbul (2015), Singapore (2016), and São Paulo (2017). This volume is the proceedings of AAMAS 2018, the 17th conference in the series, held in Stockholm in July 2018. AAMAS 2018 was part of the inaugural Federated AI Meeting (FAIM), with the other conferences being IJCAI, ICML, ICCBR and SoCS.

AAMAS 2018 invited submissions for a general track and five special tracks: Robotics, Socially Interactive Agents, Blue Sky Ideas, and Industrial Applications, along with a track to present papers from JAAMAS (the journal Autonomous Agents and Multi-Agent Systems) that had not previously been presented at a major conference. The special tracks were chaired by leading researchers in their fields: Sonia Chernova and Maria Gini chaired the Robotics track, Angelo Cafaro and Stacy Marsella the Socially Interactive Agents track, Michael Rovatsos and Carles Sierra the Blue Sky Ideas track, and Nils Bulling and Ann Nowé the Industrial Applications track. Natasha Alechina solicited papers for the JAAMAS Presentation Track from the papers that appeared in JAAMAS within the preceding 12 months.

This year, a group of Area Chairs (AC) was selected to help oversee the review process of the main track. Jointly with the program chairs, the special track chairs and area chairs were responsible for appointing Senior Program Committee (SPC) members, who in turn helped identify a strong and diverse set of Program Committee (PC) members for their tracks. Every paper was reviewed by at least three PC members, overseen by an SPC member who ensured reviews were clear and informative. After authors were given an opportunity to respond to the reviewers, the SPC member led a discussion where the reviewers considered each others', and the authors', comments. The track chairs and area chairs in turn worked with the program chairs to make final decisions about acceptance for the papers, to ensure uniformly high quality.

AAMAS 2018 attracted a good number of high-quality submissions: the overall acceptance rate for full papers was 25.5% (190 out of 743 submissions were accepted). A breakdown of the acceptances by track is as follows:

<i>Track</i>	<i>Reviewed</i>	<i>Full Paper</i>		<i>Extended Abstract</i>	
Main	607	149	25%	111	18%
Robotics	68	18	26%	15	22%
Socially Interactive Agents	53	16	30%	17	32%
Blue Sky Ideas	15	6	40%	-	-

The top 20% of accepted papers from the Main, Robotics, Socially Interactive Agents, and Blue Sky Idea tracks were nominated for a fast track review process at JAAMAS for authors interested in submitting a longer journal article describing their work.

The Industrial Applications track reviewed submissions based on industrial deployment and relevance. The track's review process included supplemental materials such as presentations and videos, in addition to the paper content. The track chairs accepted 3 full papers, 1 extended abstract, and 3 presentations. The five JAAMAS extended abstracts were reviewed by the track chair.

While all of the accepted papers are of very high quality, a selected few were nominated for the Best Paper Award and the Pragnesh Jay Modi Best Student Paper Award from the main track papers. The Best Paper Award was presented at the conference to the best paper, and the Pragnesh Jay Modi Best Student Paper Award was given to the best of the remaining papers primarily authored by a student. The Best Student Paper Award was sponsored by Springer. The nominees for these awards are listed below, alphabetically by the first author's last name; papers primarily authored by a student are marked with an asterisk (*). These papers were also nominated for fast track review at the Journal of Artificial Intelligence Research (JAIR).

Siddharth Barman, Sanath Kumar Krishnamurthy, Rohit Vaish.
Greedy Algorithms for Maximizing Nash Social Welfare

Mohammad Irfan, Tucker Gordon
The Power of Context in Networks: Ideal Point Models with Social Interactions

Wojciech Jamroga, Wojciech Penczek, Piotr Dembiński, Antoni Mazurkiewicz
Towards Partial Order Reductions for Strategic Ability

*Melrose Roderick, Christopher Grimm, Stefanie Tellex
Deep Abstract Q-Networks

*Raquel Rosés, Cristina Kadar, Charlotte Gerritsen, Chris Ovi Rouly
Agent-Based Simulation of Offender Mobility: Integrating Activity Nodes from Location-Based Social Networks

*Bryan Wilder; Laura Onasch-Vera; Juliana Hudson; Jose Luna; Nicole Wilson; Robin Petering; Darlene Woo; Milind Tambe; Eric Rice
End-to-End Influence Maximization in the Field

The Robotics and Socially Interactive Agents tracks also presented separate Best Paper awards. The following papers were nominated from the Robotics track:

Daniel Beßler, Mihai Pomarlan, Michael Beetz
OWL-enabled Assembly Planning for Robotic Agents

Shih-Yun Lo, Shiqi Zhang, Peter Stone
PETLON: Planning Efficiently for Task-Level-Optimal Navigation

Anoop Aroor, Susan Epstein
Online Learning for Crowd-Sensitive Path Planning

The following papers were nominated from the Socially Interactive Agents track:

Hendrik Buschmeier, Stefan Kopp
Communicative Listener Feedback in Human-Agent Interaction: Artificial Speakers Need to Be Attentive and Adaptive

Johnathan Mell, Gale Lucas, Jonathan Gratch
Welcome to the Real World: How Agent Strategy Increases Human Willingness to Deceive

Jan Pöppel, Stefan Kopp
Satisficing Models of Bayesian Theory of Mind to Explain the Behavior of Differently Uncertain Agents

In addition, the IFAAMAS Influential Paper award was presented at the conference to the following two papers:

Michael Wooldridge, Nicholas R. Jennings, and David Kinny

The Gaia Methodology for Agent-Oriented Analysis and Design

Journal of Autonomous Agents and Multi-Agent Systems, Volume 3, Issue 3, September 2000, pages 285-312

Franco Zambonelli, Nicholas R. Jennings, and Michael Wooldridge

Developing Multiagent Systems: The Gaia Methodology

ACM Transactions on Software Engineering Methodology, Volume 12, Issue 3, July 2003, pages 317-370

Papers were presented orally in 20 minute slots; all extended abstracts and, optionally, full papers were presented as posters during the conference. These proceedings also contain the extended abstracts of 18 Demonstrations, and 27 submissions accepted to the Doctoral Consortium, as well as abstracts of the invited talks and details of some of the awards presented.

The keynote speakers for AAMAS were Thomas A. Henzinger (IST Austria) and Ana Maria Paiva (U. Lisbon). The joint FAIM session keynote speakers were Josh Tenenbaum (MIT) and Joyce Yue Chai (Michigan State University). The ACM SIGAI Autonomous Agents Research Award talk was delivered by Craig Boutilier (Google), and Ariel Rosenfeld (Ph.D. at Bar-Ilan University 2017) gave the Victor Lesser Dissertation Award presentation.

We would like to thank the authors for submitting a large number of top quality papers and the track chairs, area chairs, SPC members, PC members, and a host of additional reviewers for their dedication in evaluating the submissions and for engaging in all the technical discussions held during the reviewing process. We also thank Neil Yorke-Smith for arranging these conference proceedings, Thomas Preuss for providing Confmaster technical support, Blai Bonet and Carles Sierra for assisting with the paper matching process, as well as Franziska Klügl and all the local arrangements assistants for organizing the venue and the social program.

Finally, we also would like to thank the whole AAMAS 2018 organization team for their work in making AAMAS 2018 a rich and exciting event; in addition to the main conference, demonstrations, and Doctoral Consortium program captured in these proceedings, there was also a tutorial program and a large joint workshop program shared across the FAIM conferences. The necessary coordination across all FAIM conferences resulted in a much higher workload for many members of the organizing team than usual. We would therefore like to extend a special thanks to all of them, especially Franziska Klügl, for their tireless efforts in making AAMAS 2018 and FAIM 2018 a success!

Mehdi Dastani and Gita Sukthankar

AAMAS 2018 Program Co-Chairs

Elisabeth André and Sven Koenig

AAMAS 2018 General Co-Chairs