

Programme Booklet

2nd International Conference on Agreement Technologies AT-2013



Beijing, China

1-2 August 2013

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Welcome to AT-2013

It is our pleasure to welcome you to AT 2013: The Second International Conference on Agreement Technologies 2013, held during August 1-2, 2013, at the Beijing International Convention Centre (BICC), Beijing, China. The conference was co-located with IJCAI-2013, so as to raise awareness among the Artificial Intelligence community of this emergent and vibrant interdisciplinary research field.

Agreement technologies refer to computer systems in which autonomous software agents negotiate, coordinate and collaborate with one another, at various levels of their functionality, typically on behalf of humans, in order to come to mutually acceptable agreements. An agent may choose whether to fulfil an agreement or not, and it should fulfil it when there is an obligation to do so derived from the standing agreements. Autonomy, interaction, mobility, and openness are key concepts studied within the agreement technologies approach.

The Second International Conference on Agreement Technologies, AT-2013, following the tradition of its predecessor AT-2012 held in Dubrovnik, Croatia, was an interdisciplinary forum bringing together researchers and practitioners working on the various topics comprising this emergent and vibrant field. It provided an avenue to discuss and exchange new ideas and techniques for the design, implementation and verification of next-generation open distributed systems centered on the notion of agreement among computational agents. The AT-2013 conference focused on the following major topics: semantic technologies (including ontology alignment, policies, and coordination), normative multiagent systems, virtual organisations and electronic institutions, argumentation and negotiation, trust and reputation, applications of agreement technologies, agreement technologies architectures, environments and methodologies, as well as interdisciplinary foundations of agreement technologies.

The committee decided to accept 15 full papers reporting on original and previously unpublished work that is currently not under review in any conference or journal. All submissions were reviewed by at least two Program Committee members or reviewers. The program also includes two invited talks, by Professor Munindar Singh, NC State University, USA, and Professor Michael Wooldridge, University of Oxford, UK.

The conference was supported by the Spanish Agreement Technologies Consolider project (CSD2007-0022) and by the CETINIA centre of the University Rey Juan Carlos, Madrid, Spain. We wish to extend our warm thanks to the AT-2013 Steering Committee, the Program Committee members, the reviewers and all authors of submitted papers for making this conference so rewarding.

August 2013

Sascha Ossowski, George Vouros, Carlos Iván Chesñevar, and Eva Onaindia

AT-2013 Officials

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Sascha Ossowski, University Rey Juan Carlos, Spain

George Vouros, University of Piraeus, Greece

Programme Chairs

Carlos Chesñevar, Universidad Nacional del Sur, Argentina

Eva Onaindia, Universitat Politècnica de València, Spain

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Carles Sierra, IIIA, Spanish National Research Council, Spain

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Denis Trcek, University of Ljubljana, Slovenia

Laszlo Varga, SZTAKI, Hungarian Academy of Sciences, Hungary

Matteo Vasirani, École Polytechnique Fédérale de Lausanne, Switzerland

Antoine Zimmermann, ISCOD, ENS Mines Saint-Etienne, France

Keynote Talk

Can't We All Just Get Along? Agreement Technologies and the Science of Security

Speaker: Prof. Munindar P. Singh

Abstract

The science of security has been garnering much attention among researchers and practitioners tired of the ad hoc nature of much of existing work on cybersecurity. I motivate the science of security as an application area for agreement technologies, surveying some key challenges and foundational agreement technologies that provide the relevant representations and reasoning techniques.

Short Bio



Munindar P. Singh is a professor in Computer Science at North Carolina State University. His research interests include multiagent systems, mobile social computing, and trust. His current and past research sponsors include Army Research Laboratory, Army Research Office, Cisco Systems, DARPA, Ericsson, IBM, Intel, National Science Foundation, the Ocean Observatories Initiative, and Xerox. Munindar is a Fellow of the IEEE, a former editor-in-chief of IEEE Internet Computing, and current editor-in-chief of the ACM Transactions on Internet Technology. He is an editorial board member of Autonomous Agents and Multiagent Systems, IEEE Internet Computing, IEEE Transactions on Services Computing, ACM Transactions on Intelligent Systems and Technology, and Journal of Artificial Intelligence Research.

Munindar's home page is <http://www.csc.ncsu.edu/faculty/mpsingh/>

Keynote Talk

Reasoning about Choice

Speaker: Prof. Michael Wooldridge

Abstract

We present a logic for reasoning about choice. Choice CTL (C-CTL) extends the well-known branching-time temporal logic CTL with *choice modalities*, “ \diamond ” and “ \square ”. An example C-CTL formula is $\diamond \mathbf{AF}happy$, asserting that there exists a choice that will lead to happiness. C-CTL is related to both STIT logics and temporal cooperation logics such as ATL, but has a much simpler and (we argue) more intuitive syntax and semantics. After presenting the logic, we investigate the properties of the language. We characterise the complexity of the C-CTL model checking problem, investigate some validities, and propose multiagent extensions to the logic.

Short Bio



Michael Wooldridge is a Professor in the Department of Computer Science at the University of Oxford. He has been active in multi-agent systems research since 1989, and has published over three hundred articles in the area. His main interests are in the use of formal methods for reasoning about autonomous agents and multi-agent systems. He was the recipient of the ACM Autonomous Agents Research Award in 2006. He is an associate editor of the journals “Artificial Intelligence” and “Journal of AI Research (JAIR)”. His introductory textbook “An Introduction to Multiagent Systems” was published by Wiley in 2002 (Chinese translation 2003; Greek translation 2008; second edition 2009).

Michael’s home page is <http://www.cs.ox.ac.uk/people/michael.wooldridge/>

Conference Programme

Thursday, August 1st, 2013

BICC Room 310

Opening 08:45 – 09:00

Invited Talk by Munindar P. Singh 09:00 – 10:00

Coffee Break 10:00 – 10:30

Session 1: Argumentation and Negotiation 10:30 – 12:00

- Stella Heras, Vicent Botti and Vicente Julian
ArgCBROnto: A Knowledge Representation Formalism for Case-Based Argumentation
- Patrice Caire, Leon van der Torre and Serena Villata
Argumentation Theoretic Foundations for Abstract Dependence Networks
- Carlos Chesñevar, María Paula González, Kathrin Grosse and Ana Gabriela Maguitman
A First Approach to Mining Opinions as Multisets through Argumentation

Lunch 12:00 – 13:30

The Café Restaurant

North Star Continental Grand Hotel

Session 2: Trust and Reputation 13:30 – 15:00

- Chatschik Bisdikian, Yuqing Tang, Federico Cerutti and Nir Oren
A Framework for Using Trust to Assess Risk in Information Sharing
- Joana Urbano, Ana Paula Rocha and Eugénio Oliveira
The impact of Benevolence in Computational Trust
- Ramón Hermoso, Roberto Centeno and Maria Fasli
Extracting reputation with knock-out tournament-based pairwise elicitation in complex social networks

Coffee Break 15:00 – 15:30

Session 3: Multiagent Systems and Organizations 15:30 – 17:00

- Henrique Lopes Cardoso, Ramón Hermoso and Maria Fasli
Policies for role maintenance through incentives: how to keep agents on track

- José Santiago Pérez-Sotelo, Carlos E. Cuesta, Holger Billhardt and Sascha Ossowski
Lifecycle of Adaptive Agreements: a Pattern Language
- Dave De Jonge, Carles Sierra and Bruno Rosell
Human Interactions in Electronic Institutions

Conference Dinner 20:00
Capital M Restaurant Metro: Qianmen

Friday, August 2nd, 2013 **BICC Room 310**

Invited Talk by Michael Wooldridge 09:00 – 10:00

Coffee Break 10:00 – 10:30

Session 4: Formal Models of Agreement 10:30 – 12:00

- Yi N. Wáng and Thomas Ågotnes
Preference Logic of Focus Change: A Semantic Approach
- Truls Pedersen, Sjur Dyrkolbotn and Thomas Ågotnes
Reasonably rational: reasoning about reasons behind preferences using modal logic
- Federico Cerutti, Alice Toniolo, Nir Oren and Timothy Norman
An Empirical Evaluation of Geometric Subjective Logic Operators

Lunch 12:00 – 13:30
The Café Restaurant North Star Continental Grand Hotel

Session 5: Applications..... 13:30 – 15:00

- Radu-Casian Mihailescu, Matthias Klusch and Sascha Ossowski
eCOOP: Privacy-Preserving Dynamic Coalition Formation for Power Regulation in the Smart Grid
- María del Carmen Delgado-Roman and Carles Sierra
A Multi-agent approach to energy-aware Wireless Sensor Networks organization
- Zijie Cong and Alberto Fernandez Gil
Efficient Web Service Discovery using Hierarchical Clustering

Closing 15:00 – 15:15

Social Programme

Thursday, August 1st, 2013, 20:00 h

The Conference Dinner will take place at the **Capital M** restaurant located at the Qianmen Pedestrian Street, just south of Tian'anmen Square. The restaurant is easily reached by Metro (Line 2, Qianmen station, Exit B or C) or by taxi. It enjoys spectacular views of the Tian'anmen Square, taking in the imposing Qianmen Gate as well as the square in its entirety, right up to the entrance to the Forbidden City.

Address:

3/F, No.2 Qianmen Pedestrian Street
(just south of Tian'anmen Square)
Beijing 100051 China

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邮编 100051

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Conference Venue

Beijing International Convention Centre (BICC)

The conference will be held at **Room 310** (Level 3) of the Beijing International Convention Centre (BICC). Lunch will be served at **The Cafe Restaurant**, located at the Lobby level of the North Star Continental Grand Hotel, which is directly connected to BICC. BICC is right across the street from the centre of the 2008 Beijing Olympic Games – Beijing National Stadium, known as the “Bird’s Nest”, and the Aquatic Centre, known as the “Water Cube”.

Address:

No.8 Beichen Dong Road
Chaoyang District
Beijing 100101 China

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中国北京市朝阳区北辰东路8号

