

Tenth International Workshop CIA 2006

Cooperative Information Agents

September 11 - 13, 2006, Edinburgh, UK
University of Edinburgh

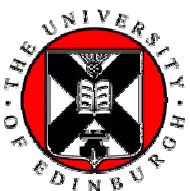
Scientific Program

Invited Talks & Speakers

Social Program

Awards

Organisers & Sponsors



WHITESTEIN
Technologies



CONTENT

PRELIMINARIES	3
SCIENTIFIC PROGRAM	6
SOCIAL PROGRAM	11
INVITED TALKS & SPEAKERS	13
AWARDS	17
ORGANISERS	18
SPONSORS	20

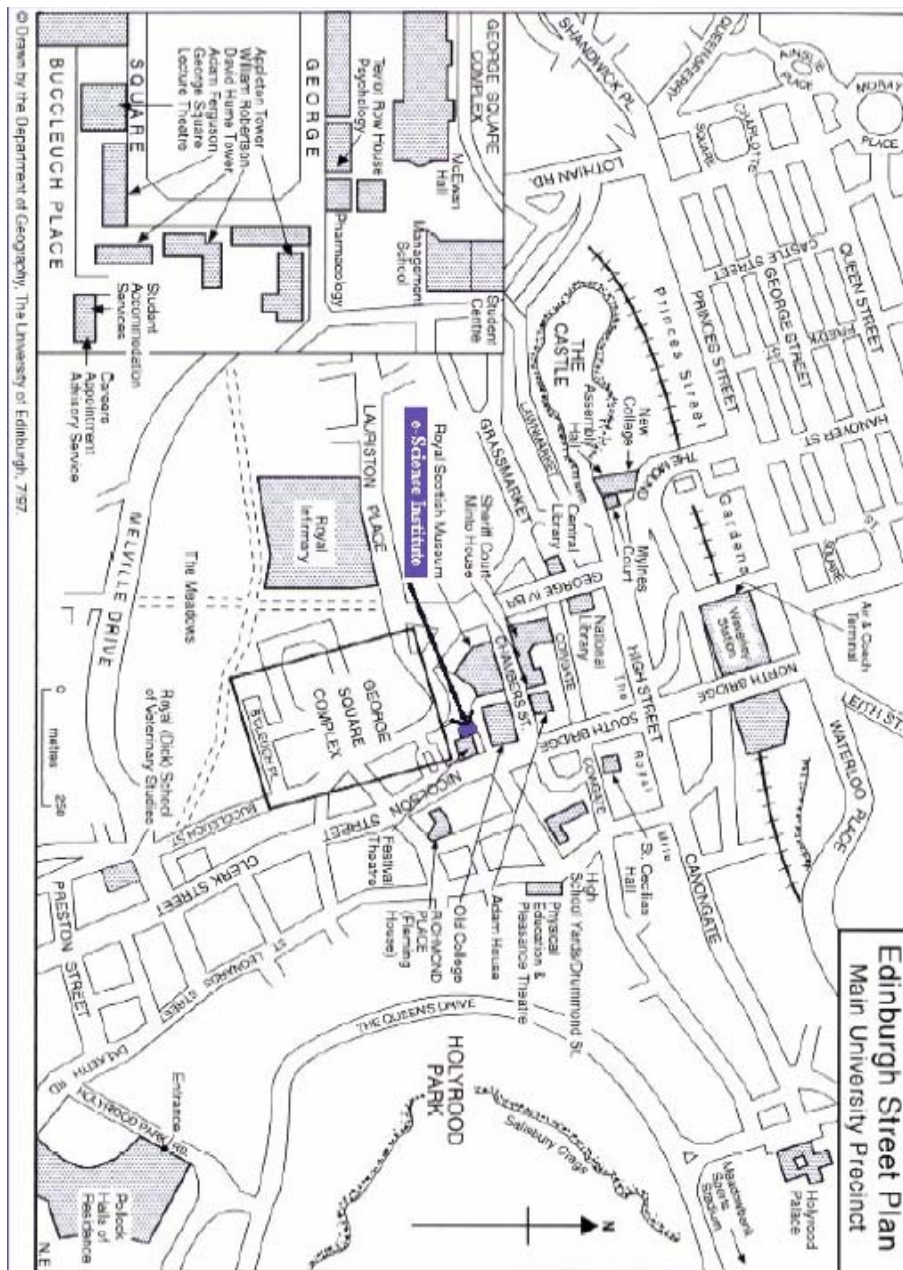
PRELIMINARIES

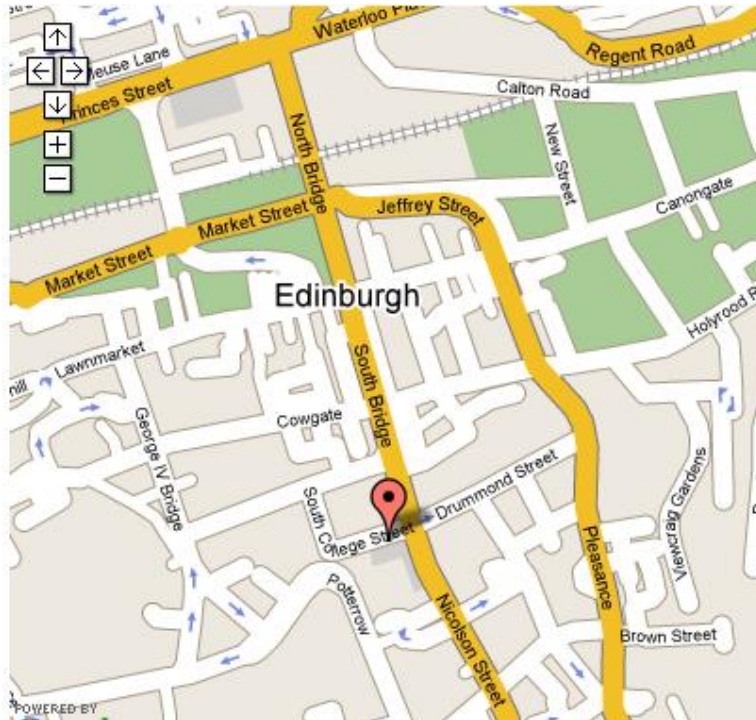
Workshop Venue

The CIA 2006 workshop takes place at the e-Science Institute (eSI) of the University of Edinburgh.

The University of Edinburgh, e-Science Institute
15 South College Street
Edinburgh EH8 9AA, United Kingdom
Tel: +44 (0)131 650 9833, Fax: +44 (0)131 650 9819

Location of the Workshop Venue in Edinburgh:





Reaching the Venue By Taxi:

The eSI building is approximately 20 minutes by taxi from Edinburgh airport (40 minutes by bus). If taking a taxi from Waverley station it is worth noting only certain taxi companies are allowed to pick up from within the station, so if there's a long queue it's probably worth walking out onto the main road. Edinburgh taxis are all black cabs, regulated by city authorities and able to provide quotations prior to booking and expense receipts.

City Cabs: +44 (0) 131 228 1211 Central Radio Taxis: +44 (0) 131 229 2468
 Capital Castle Taxis: +44 (0) 131 228 2555 Or +44 (0) 131 220 0604

Locations in the eSI Building:

Registration to the CIA 2006 and IEEE FIPA meeting takes place in the entrance of the eSI building. All talks of the CIA 2006 workshop will be given in the lecture theatre "Newhaven", on level 4 of the building. The co-located annual meeting of IEEE FIPA takes place in the room "Cramond" on level 2 of the building. All rooms have wireless Internet access, and a data projector is available.



Level 4, "Newhaven" Lecture Theatre:
CIA 2006 Workshop



Level 2, Room "Cramond":
Annual IEEE FIPA meeting 2006

For urgent help and further information on the local organisation of this event you may also call the local chair, Dr Michael Rovatsos, at +44-131-6513263 (office), the conference administrator Mrs Lee Callaghan at +44-131-6509817 or the general chair, Dr Matthias Klusch, at +49-177-2542399 (mobile).

Welcome to CIA 2006!

On behalf of the organizing board, we very cordially welcome you to the Tenth International Workshop on Cooperative Information Agents (CIA 2006)! This year, it is co-located with the annual meeting of the IEEE Computer Society Standards Organisation for Intelligent and Physical Agents (FIPA).

In today's networked world of linked heterogeneous, pervasive computer systems, devices, and information landscapes, intelligent coordination and provision of relevant added-value information at any time, anywhere, by means of intelligent and cooperative information agents becomes increasingly important for a variety of applications.

In keeping with its tradition, the CIA 2006 workshop aims at being a small but very distinguished, interdisciplinary forum for researchers and practitioners to get informed about, present, and discuss the state of the art in research and development of agent-based intelligent and cooperative information systems, and applications for the Internet and related areas such as the Semantic Web and Grid computing.

We are very pleased to offer a carefully selected set of regular and invited talks of excellence that are given by renowned experts in the field. These talks cover a broad area of topics of interest such as aspects of agent based information provision, agents and services, rational cooperation, resource and task allocation, communication and cooperation, agent-based Grid computing, and applications. These talks are complemented by system demonstrations, a social program, and last but not least, the best paper and system innovation awards.

Finally, our particular thanks go to the generous sponsors of this event as well as to the local organisation team from the University of Edinburgh and the eScience Institute for their hard work in providing the CIA 2006 event with a traditionally comfortable, modern, and all-inclusive location, and ingenious arrangement of social events.

We are very much looking forward to an inspiring event, and hope that you will enjoy both its scientific and social program celebrating the tenth anniversary of the series!

Matthias Klusch, Michael Rovatsos and Terry Payne

SCIENTIFIC PROGRAM

Monday, September 11, 2006

8:45 - 9:00 Welcome

Matthias Klusch, Michael Rovatsos, Terry Payne

9:00 - 9:45 Invited Talk I

[see page 13]

Semantic Web Research Anno 2006: Main Streams, Popular Fallacies, Current Status, and Future Challenges

Frank van Harmelen (Vrije Universiteit Amsterdam, The Netherlands)

Session I: Agent Based Information Provision

9:45 - 10:15

Agents for Information-Rich Environments

John Debenham and Simeon Simoff

10:15 - 10:45

Information Agents for Optimal Repurposing and Personalization of Web Content in Semantics-Aware Ubiquitous and Mobile Computing Environments

Fernando Alonso, Sonia Frutos, Miguel Jiménez, and Javier Soriano

10:45 - 11:10

Turn Taking for Artificial Conversational Agents

Fredrik Kronlid

Inducing perspective sharing between a user and an embodied agent by a thought balloon as an input form

Satoshi V. Suzuki and Hideaki Takeda

11:10 - 11:30 **Coffee Break**

Session II: Applications

11:30 - 12:00

Agent-Based Analysis and Support for Incident Management

Mark Hoogendoorn, Catholijn M. Jonker, Jan Treur, and Marian Verhaegh

12:00 - 12:30

A Distributed Agent Implementation of Multiple Species Flocking Model for Document Partitioning Clustering

Xiaohui Cui and Thomas E. Potok

12:30 - 13:00

Coverage Density as a Dominant Property of Large-Scale Sensor Networks
Osher Yadgar and Sarit Kraus

13:00 - 14:00 **Lunch**

14:00 - 14:45 Invited Talk II

[see page 14]

A Research Agenda for Agent Based Service Oriented Architectures

Michael N. Huhns (University of South Carolina, USA)

Session III: Agents and Services

14:45 - 16:15

Selecting Web Services Statistically
David Lambert and David Robertson

15:15 - 15:45

Conversation-based specification and composition of agent services
Quoc Bao Vo and Lin Padgham

15:45 - 16:15

Evaluating Dynamic Services in Bioinformatics
Maira R. Rodrigues and Michael Luck

16:15 - 16:30 **Coffee Break**

Session IV: Learning

16:30 - 17:00

A Classification Framework of Adaptation in Multi-Agent Systems
Cesar A. Marin and Nikolay Mehandjiev

17:00 - 17:30

Market-Inspired Approach to Collaborative Learning
Jan Tozicka, Michal Pechoucek and Michal Jakob

17:30 - 18:00

Improving Example Selection for Agents Teaching Ontology Concepts
Mohsen Afsharchi and Behrouz H. Far

19:00 >>> Welcome Reception <<<

Tuesday, September 12, 2006

9:00 - 9:45 Invited Talk III

[see page 15]

[The Helpful Environment: Distributed Agents and Services Which Cooperate](#)
Austin Tate (AIAI, University of Edinburgh, UK)

Session V: Resource and Task Allocation

9:45 - 10:15

Egalitarian Allocations of Resources: From Theory to Practice
P-A. Matt and F. Toni

10:15 - 10:45

Iterative Query-Based Approach to Efficient Task Decomposition and Resource Allocation.
Michal Pechoucek, Ondrej Lerch, and Jiri Biba

10:45 - 11:00

Multilevel Approach to Agent-Based Task Allocation in Transportation
Martin Rehak, Premysl Volf and Michal Pechoucek

11:00 - 11:30 **Coffee Break**

Session VI: Rational Cooperation (1)

11:30 - 12:00

Learning to Negotiate Optimally in Non-Stationary Environments
Vidya Narayanan and Nicholas R. Jennings

12:00 - 12:30

Eliminating Interdependencies between Issues for Multi-issue Negotiation
Koen Hindriks, Catholijn M. Jonker, Dmytro Tykhonov

12:30 - 13:00

The Distortion of Cardinal Preferences in Voting
Ariel D. Procaccia and Jeffrey S. Rosenschein

13:00 - 14:00 **Lunch**

[14:00 - 23:00 >>> Social Programme <<<](#)

[see pages 11-12]

Glenkinchie Distillery
Rosslyn Chapel
Dinner at Borthwick Castle

Wednesday, September 13, 2006

9:30 - 10:15 Invited Talk IV

[see page 16]

Voting in Cooperative Information Agent Scenarios: Use and Abuse

Jeffrey S. Rosenschein (Hebrew University, Israel)

Session VII: Rational Cooperation (2)

10:15 - 10:45

Risk Bounded Formation of Fuzzy Coalitions among Service Agents

Bastian Blankenburg, Minghua He, Matthias Klusch, and Nicholas R. Jennings

10:45 - 11:15

A Simple Argumentation Based Contract Enforcement Mechanism

Nir Oren, Alun Preece, and Timothy J. Norman

11:15 - 11:45

A Fuzzy Approach to Reasoning with Trust, Distrust and Insufficient Trust

Nathan Griffiths

11:45 - 12:10 **Coffee Break**

Session VIII: CIA 2006 System Demonstrations

(Finalists to be announced. Running system demonstration, Q & A session, public vote.)

13:00 - 14:00 **Lunch**

Session IX: Communication and Cooperation

14:00 - 14:30

Performative Patterns for Designing Verifiable ACLs

Nicola Dragoni and Mauro Gaspari

14:30 - 14:40

Enabling Mobile Agents Interoperability through FIPA Standards

Joan Ametller-Esquerra, Jordi Cucurull-Juan, Ramon Marti, Guillermo Navarro, Sergi Robles

14:40 - 15:10

Characterising Agents' Behaviours: Selecting Goal Strategies Based on Attributes

Ontology Mapping in Agent-Based Virtual Enterprises

Jose Cascalho, Luis Antunes, Milton Correa and Helder Coelho

15:10 - 15:20

A Framework of Cooperative Agents with Implicit Support for Ontologies

Riza Cenk Erdur and Inanc Seylan

15:20 - 15:30

Specifying Protocols For Knowledge Transfer and Action Restriction in Multiagent Systems

Maria Adela Grando and Christopher D. Walton

15:30 - 16:00 **Coffee Break**

Session X: Agent Based Grid Computing

16:00 - 16:30

Flexible Service Composition

Adam Barker and Bob Mann

16:30 - 17:00

Using Electronic Institutions to secure Grid environments

Ronald Ashri, Terry Payne, Michael Luck, Mike Surridge, Carles Sierra Juan Antonio Rodriguez Aguilar, and Pablo Noriega

17:00 - 17:45

Panel on Agents and Grid Computing

Moderator: Michael Rovatsos

Closing Session

17:45 - 18:00

CIA 2006 Best Paper Award Giving

CIA 2006 System Innovation Award Giving

SOCIAL PROGRAM

Monday, September 11, 2006

Welcome Reception at the University of Edinburgh, eSI. From 7 pm.

Tuesday, September 12, 2006

At 2pm the bus departs from the main entrance of the eSI building.

(1) Visit to Glenkinchie Scotch Malt Whisky Distillery

No visit to Scotland is complete without a visit to a working Scotch Malt Whisky Distillery. How better to capture the true spirit of the nation?



The Glenkinchie distillery, home of 'The Edinburgh Malt', is one of such and located in the rolling farmland of East Lothian, about 45 minutes by car from Edinburgh, and houses an exhibition in the listed red brick buildings. Of course, we will not miss this perfect opportunity!

We will make a guided tour through this distillery, and may have some tasting of its products before heading to one of Scotland's famous chapels.

- 2:45 pm - 4 pm Glenkinchie Distillery



(2) Visit to Rosslyn Chapel



Rosslyn Chapel, or the Collegiate Chapel of St Matthew as it was to have been, was founded in 1446 by Sir William St Clair, third and last St Clair Prince of Orkney. Rosslyn is a member of the Episcopalian Church and has a moving history. On the architrave joining the famous 'Apprentice pillar', the words in latin mean 'Wine is strong a King is stronger, women are stronger still but truth conquers all' the text which comes from the book of Esdras, ch 3 & 4. However,

what could make this chapel even more attractive to book reading people of all kinds of faith, and atheists as well is the fact that it plays an important role in the recent international bestseller "The Da Vinci Code" by Dan Brown. We will be guided through this unique Scottish chapel, and then continue with our bus trip to its final destination.

- 4:45 pm - 6 pm Rosslyn Chapel

(3) Social Dinner at Borthwick Castle

After visits to a whisky distillery and mystic chapel, what is still missing from a typical Scottish tour? Right, impossible to leave Edinburgh without visiting one of the magnificent castles in the area! And being there, why not even having a nice social dinner at this remarkable historic place?



The twin towered fortress of **Borthwick Castle** was built in 1430 by the first Lord Borthwick. A charter to build the castle was awarded to Sir William de Borthwick by the catholic King James I in thanks for his part in bringing the King home to Scotland after 18 years imprisonment in England. The castle was built as a stronghold capable of withstanding attack from invaders, particularly the English. The castle played host to many distinguished guests and Mary Queen of Scots enjoyed the hospitality of the Sixth Lord Borthwick on many occasions, including her honeymoon. In 1650 Oliver Cromwell laid siege to the castle strongly supported by heavy bombardment by cannon which destroyed the east parapet and tore a large cavity in the stonework, which can still be seen today. During World War II the castle was considered strong enough to store Scottish Public Records as well as treasures from the National Library and the Royal Museums of Scotland.



The castle has been operating as a hotel since 1973, despite of many tales that have been told of ghosts wandering it ... But no worries, we won't leave this place without you, promised! ☺

So, we hope that you very much enjoy our social dinner and relax from your hard working at this calm, protected, historic and comfy place!



- 6:45 pm - 10 pm Borthwick Castle

Return by bus at 10:15 pm, and arrival in Edinburgh at 11pm. Please note that indicated times may change subject to unforeseen events, and flexibility of action.

Invited Talks & Speakers

Monday, September 11, 9:00 - 9:45

Semantic Web Research Anno 2006: Main Streams, Popular Fallacies, Current Status, and Future Challenges

Frank van Harmelen (Vrije Universiteit Amsterdam, The Netherlands)

In this talk, we try to give an analysis and overview of the current state of Semantic Web research. We point to different interpretations of the Semantic Web as the reason underlying many controversies, we list (and debunk) four false objections which are often raised against the Semantic Web effort. We discuss the current status of the Semantic Web work by reviewing the current answers to four central research questions that need to be answered, and by surveying the uptake of Semantic Web technology in different application areas. Finally, we try to identify the main challenges facing the Semantic Web community.



Frank van Harmelen is professor in Knowledge Representation and Reasoning at the Vrije Universiteit Amsterdam, with a PhD from the University of Edinburgh on strategies for theorem provers and past work at the University of Amsterdam on formal foundations of knowledge modelling. He has been very active in recent years in developments around the Semantic Web. One of his five books is the first text book on Semantic Web technology. He is involved in numerous European Semantic Web projects, and he was one of the designers of the W3C standard ontology language OWL. He was the Program Chair of the ECAI 2002, the General Chair of the 2004 International Semantic Web Conference, and the chair the Semantic Web track of the 2005 World Wide Web conference. Contact him at Frank.van.Harmelen@cs.vu.nl

Monday, September 11, 14:00 - 14:45

A Research Agenda for Agent-Based Service-Oriented Architectures

Michael N. Huhns (University of South Carolina, USA)

Web services, especially as fundamental components of service-oriented architectures, are receiving a lot of attention. Their great promise, however, has not yet been realized, and a possible explanation is that significant research and engineering problems remain. We describe the problems, indicate likely directions and approaches for their solution, present an agenda for the deployment of such solutions, and explain the benefits of the resultant deployment. It is our strong expectation that Web services will eventually have an agent basis, which would be needed to address the problems.



Michael N. Huhns is professor of computer science and engineering at the University of South Carolina, where he also directs the Center for Information Technology. He is the author of over 180 technical papers in machine intelligence and an editor of the books *Distributed Artificial Intelligence*, Volumes I and II and *Readings in Agents*. Dr. Huhns is an associate editor for *IEEE Intelligent Systems*, the *Journal of Autonomous Agents and Multi-Agent Systems*, and *IEEE Internet Computing*. He is on the editorial boards of the *International Journal of Cooperative Information Systems*, the *Journal of Intelligent Manufacturing*, and the *Journal of*

Emerging Mechanical Engineering Technology. He is a founder and board member for the International Foundation for Cooperative Information Systems, and the International Foundation for Multi-Agent Systems, for which he is also the Treasurer. He has chaired and served on the advisory boards and program committees for numerous international conferences and workshops. Contact him at huhns@sc.edu, www.cse.sc.edu/~huhns

Tuesday, September 12, 9:00 - 9:45

The Helpful Environment: Distributed Agents and Services Which Cooperate

Austin Tate (AIAI, University of Edinburgh, UK)

Imagine a future environment where networks of agents - people, robots and software agents - interact with sophisticated sensor grids and environmental actuators to provide advice, protection and aid. The systems will be integral to clothing, communications devices, vehicles, transportation systems, buildings, and pervasive in the environment. Vehicles and buildings could assist both their occupants and those around them. Systems would adapt and respond to emergencies whether communication were possible or not. Where feasible, local help would be used, with appropriate calls on shared services facilitated whenever this is both possible and necessary. Through this framework requests for assistance could be validated and brokered to available and appropriate services in a highly distributed fashion. Services would be provided to individuals or communities through this network to add value and give all sorts of assistance beyond emergency response aspects. In emergency situations, the local infrastructure would be augmented by the facilities of the responder teams at any level from local police, ambulance and fire response, all the way up to international response. An emergency zone's own infrastructure could be augmented when necessary by laying down temporary low cost sensor grids and placing specialized devices and robotic responders into the disaster area. These would form the basis for a distributed, adaptable, and resilient "helpful environment" for every individual and organisation at personal, family, business, regional, national and international levels.



Austin Tate holds the Chair in Knowledge-Based Systems at the University of Edinburgh and is the Director of the Artificial Intelligence Applications Institute at the University. He helped form AIAI in 1984 and since that time has led its efforts to transfer the technologies and methods of artificial intelligence and knowledge systems into commercial, governmental and academic applications throughout the world. He holds degrees in Computer Studies (B.A. Lancaster, 1972) and Machine Intelligence (Ph.D. Edinburgh, 1975). He is a Fellow of the Royal Society of Edinburgh (Scotland's National Academy), a Fellow of the American Association of Artificial Intelligence, and a member of the editorial board of a number of AI journals. His internationally sponsored research work involves advanced knowledge and planning technologies, especially for use in emergency response. Professor Tate is a professionally Chartered Engineer. Contact him at a.tate@ed.ac.uk

Wednesday, September 13, 9:30 - 10:15

Voting in Cooperative Information Agent Scenarios: Use and Abuse

Jeffrey S. Rosenschein (Hebrew University, Israel)

Social choice theory can serve as an appropriate foundation upon which to build cooperative information agent applications. There is a rich literature on the subject of voting, with important theoretical results, and builders of automated agents can benefit from this work as they engineer systems that reach group consensus. This talk will review various voting techniques and give an overview of some of the seminal results in social choice theory. We will then consider the application of these techniques (in scenarios such as multi-agent planning), and examine nuances in their use. In particular, we'll consider the issue of preference extraction in these systems, with an emphasis on the complexity of manipulating group outcomes. We show that a family of important voting protocols is susceptible to manipulation by coalitions in the average case, when the number of candidates is constant (even though their worst-case manipulations are NP-hard).



Jeffrey S. Rosenschein is the Director of the Multiagent Systems Research Group at Hebrew University, which made its mark in early work on game theory and mechanism design as applied to multiagent negotiation and planning. That research revolved around issues of cooperation and competition among agents, and the use of economic theory, voting theory, and game theory to establish appropriate foundations for Multiagent Systems (MAS). Professor Rosenschein's more recent work has branched out into a variety of additional MAS research areas, including multiagent learning, reputation systems, and dynamic planning. Since October 2003, he is Chairman of Studies for Computer Engineering, within the School of Computer Science and Engineering at Hebrew University, and serves a two-year term (2004-2006) as president of the International Foundation for Multiagent Systems (IFMAS), a non-profit corporation whose purpose is to promote science and technology in the area of artificial intelligence and multiagent systems. Contact him at jeff@cs.huji.ac.il

Awards

CIA 2006 Best Paper Award



The CIA 2006 workshop series issues a Best Paper Award.

Only submissions to the workshop are eligible for nomination and are evaluated by the program committee, sponsors, and co-chairs. This award is sponsored by the workshop series with 300 Euros.

CIA 2006 System Innovation Award



The top-ranked finalists for this award have been selected by the program committee, sponsors, and co-chairs. This year's award is sponsored by Whitestein Technologies, Switzerland. The winning prize is 500 Euros.

Each of the nominated agent systems has to be demonstrated live (running prototype) to the public, and is evaluated against the following criteria: core functionality, main techniques used, experimental results, innovative features in comparison to other existing systems.

The final decision on the winner of this year's award depends on the result of the public voting of conference attendees, the voting of the program committee, and the final vote of the co-chairs after the public system demonstration.

The award giving ceremony is scheduled for the closing session of the CIA 2006 workshop on September 13, 2006, 18:00 - 18:15.

Organisers

General Chair



Matthias Klusch is a senior researcher and research fellow of the German research center for Artificial Intelligence (DFKI). He is head of a research team on intelligent information systems and agents. Previously, he was assistant professor at the free university of Amsterdam (The Netherlands), assistant professor at the Chemnitz University of technology (Germany), and research scientist at the Carnegie Mellon university in Pittsburgh (USA). He received both his MSc (1992) and PhD (1997) in computer science from the Christian-Albrecht University of Kiel (Germany). Dr Klusch is co-founder of the German conference series on multi-agent system technologies (MATES), and coordinates the annual international workshop series on cooperative information agents since 1997. He serves on the editorial board of the international journals of knowledge and information systems (Springer), cooperative information systems (WSP), Web intelligence and agent systems (IOS), and Web Semantics (Elsevier). His current research interests mainly focus on the areas of include agent-based and service-oriented computing, and the semantic Web. He is member of the IEEE Computer Society, ACM, and German Society for Informatics. Contact him at [klusch@nospam@dfki.de](mailto:klusch@nospam.dfki.de); <http://www.dfki.de/~klusch>

Program Co-Chairs



Michael Rovatsos is a lecturer and leads the Agents Group at the Centre for Intelligent Systems and their Applications, which is part of the School of Informatics of the University of Edinburgh. He holds a Diploma in Computer Science from the University of Saarbruecken (1999) and a PhD in Computer Science from the Technical University of Munich (2004). His research interests lie in agents and multiagent systems, particularly agent communication, multiagent learning, and agent-oriented software engineering and he has (co-)authored over 35 papers and book chapters in these areas. He is also particularly interested in agent applications to Grid computing, peer-to-peer systems, the Semantic Web, and health informatics. Contact him at mrovatso@inf.ed.ac.uk <http://www.rovatsos.org/>



Terry Payne is a lecturer at the University of Southampton, having previously been involved with the Intelligent Software Agents Laboratory at Carnegie Mellon University. Prior to working at CMU, Dr Payne spent five years as a Graduate Student at the Computing Science Department, University of Aberdeen, Scotland. His current research is focussed on Semantic Web Services and Agents, and their discovery. Other research interests include Multi-Agent Systems, Information Retrieval systems and Machine Learning techniques. Contact him at trp@ecs.soton.ac.uk; <http://www.ecs.soton.ac.uk/~trp/>

Local Organisation Team

Michael Rovatsos
Lee Callaghan
Jennifer Hurst
Yvonne Anderson

Program Committee

Karl Aberer (EPF Lausanne, Switzerland)
Wolfgang Benn (TU Chemnitz, Germany)
Federico Bergenti (U Parma, Italy)
Bernard Burg (Panasonic Research, USA)
Monique Calisti (Whitestein Technologies, Switzerland)
Cristiano Castelfranchi (U Siena, Italy)
John Debenham (TU Sydney, Australia)
Yves Demazeau (LEIBNIZ/IMAG, France)
Boi Faltings (EPF Lausanne, Switzerland)
Fausto Giunchiglia (IRST-ITC, Italy)
Marie-Pierre Gleizes (IRIT Toulouse, France)
Rune Gustavsson (TH Blekinge, Sweden)
Heikki Helin (TeliaSonera, Finland/Sweden)
Brian Henderson-Sellers (TU Sydney, Australia)
Michael Huhns (U South Carolina, USA)
Toru Ishida (Kyoto University, Japan)
Catholijn Jonker (U Nijmegen, The Netherlands)
Hillol Kargupta (U Maryland BC, USA)
Ewan Klein (U Edinburgh, UK)
Christoph Koch (U Saarland, Germany)
Manolis Koubarakis (TU Crete, Greece)
Sarit Kraus (Bar-Ilan U, Israel)
Daniel Kudenko (U York, UK)
Maurizio Lenzerini (U Rome, Italy)
Victor Lesser (U Massachusetts, USA)
Jiming Liu (Hongkong Baptist U, China)
Stefano Lodi (U Bologna, Italy)
Aris Ouksel (U Illinois, USA)
Sascha Ossowski (U Rey Juan Carlos Madrid, Spain)
Paolo Petta (Medical U Vienna, Austria)
Alun Preece (U Aberdeen, UK)
Omer Rana (U Cardiff, UK)
Jeffrey Rosenschein (Hebrew U, Israel)
Marie-Christine Rousset (U Paris-Sud, France)
Ken Satoh (National Institute for Informatics, Japan)
Onn Shehory (IBM Research, Israel)
Carles Sierra (CSIC Barcelona, Spain)
Steffen Staab (U Koblenz, Germany)
Hiroki Suguri (Comtech Sendai, Japan)
Katia Sycara (Carnegie Mellon U, USA)
Rainer Unland (U Duisburg-Essen, Germany)
Gottfried Vossen (U Muenster, Germany)

Sponsors

We very gratefully acknowledge the financial support of this workshop by the following co-sponsors.



WHITESTEIN
Technologies

Whitestein Technologies is a young international IT company, specialized in the design and development of advanced agent-based systems, applications, and technologies, combined and well integrated with other advanced information and communication technologies (eg. mobile wireless computing) and current state-of-the-art technologies (eg. Java J2EE). It was founded in January 1999 with the mission to become a leading provider of advanced software agent technologies, products, solutions, and services for various applications and industries. We strongly believe that agent-based technologies and agent-oriented software engineering methodologies will be among the key concepts of a next generation of distributed information systems and network infrastructures, in particular in combination with other leading-edge technologies such as web services and mobile wireless computing. However, based on our hands-on experience in the real IT-world, we also know that software agent technologies will only thrive in the marketplace if they reach industry-grade quality and applicability, and are well integrated with "traditional" technologies and products. Consequently, Whitestein pursues a well-focused, integrated and balanced approach on parallel paths in order to realize the agents technologies' potential for better solutions and thus additional customer benefits and profits. <http://www.whitestein.com/>



The Centre of Intelligent Systems and their Applications is one of the research institutes of the world-renowned School of Informatics of the University of Edinburgh. At CISA, we investigate how knowledge can be formally represented and reasoning can be automated. This is part of the foundations for the computational fabric that supports modern industry and society. It is also a major driving force for change, in areas such as multi-agent systems and reasoning on the Web. Because in our field there is a strong interaction between theory and application, CISA covers the spectrum from basic research using logics and theorem proving methods through to systems oriented research (via our Artificial Intelligence Applications Institute). <http://www.cisa.inf.ed.ac.uk>



The e-Science Institute (eSI) has four years of experience in stimulating and organising events for the UK's e-Science community and of hosting visitors who interact with that community. The initial programme at eSI was shaped by the pressing need to form the UK's e Science community across all disciplines, to help it develop an understanding of the challenges and available solutions, and to develop skills. That programme has been very successful. Now the main thrust of eSI's work is changing to focus on longer-term and research centred topics. This is achieved by running themes that develop a topic over a period of six months to a year, through a series of workshops and meetings at eSI and elsewhere. The choice of themes and theme leaders is competitive, and we are already running two themes under this regime and have two more in the pipeline. There will remain a need for a rapid response to community issues, which will continue to be met by eSI. <http://www.nesc.ac.uk>



FIPA is an IEEE Computer Society standards organization that promotes agent-based technology and the interoperability of its standards with other technologies. FIPA was originally formed as a Swiss based organization in 1996 to produce software standards specifications for heterogeneous and interacting agents and agent based systems. Since its foundations, FIPA has played a crucial role in the development of agents standards and has promoted a number of initiatives and events that contributed to the development and uptake of agent technology. Furthermore, many of the ideas originated and developed in FIPA are now coming into sharp focus in new generations of Web/Internet technology and related specifications. In March 2005, the FIPA Board of Directors presented this opportunity to the entire FIPA membership, who unanimously voted to join the IEEE computer Society. Now, it is time to move standards for agents and agent-based systems into the wider context of software development. In short, agent technology needs to work and integrate with non-agent technologies. To this end, the IEEE Computer Society has formally accepted FIPA to become part of its family of standards committees.

<http://www.fipa.org>



The Society for the Study of Artificial Intelligence and the Simulation of Behaviour (SSAISB) is the largest Artificial Intelligence Society in the United Kingdom. Founded in 1964, the society has an international membership drawn from both academia and industry. It is a member of the European Coordinating Committee for Artificial Intelligence. SSAISB is a thriving learned society which invites membership from people with a serious interest in Artificial Intelligence, Cognitive Science and related areas.

<http://www.aisb.org.uk>



**Cooperative
Information Agents**

The international workshop series on cooperative information agents (CIA), established in 1997, aims at providing a small but distinguished and inter-disciplinary forum for researchers, software developers, and managers to present and discuss latest high quality results in advancements of theory and best practice of agent-based intelligent and cooperative information systems for open information and service environments in the Internet, Web, and semantic Web.

<http://www.dfki.de/~klusch/IWS-CIA.html>

The CIA 2006 Workshop has been organised in cooperation with



Global Grid Forum
www.ggf.org



ACM SIGART, ACM SIGWEB, ACM SIGKDD
www.acm.org