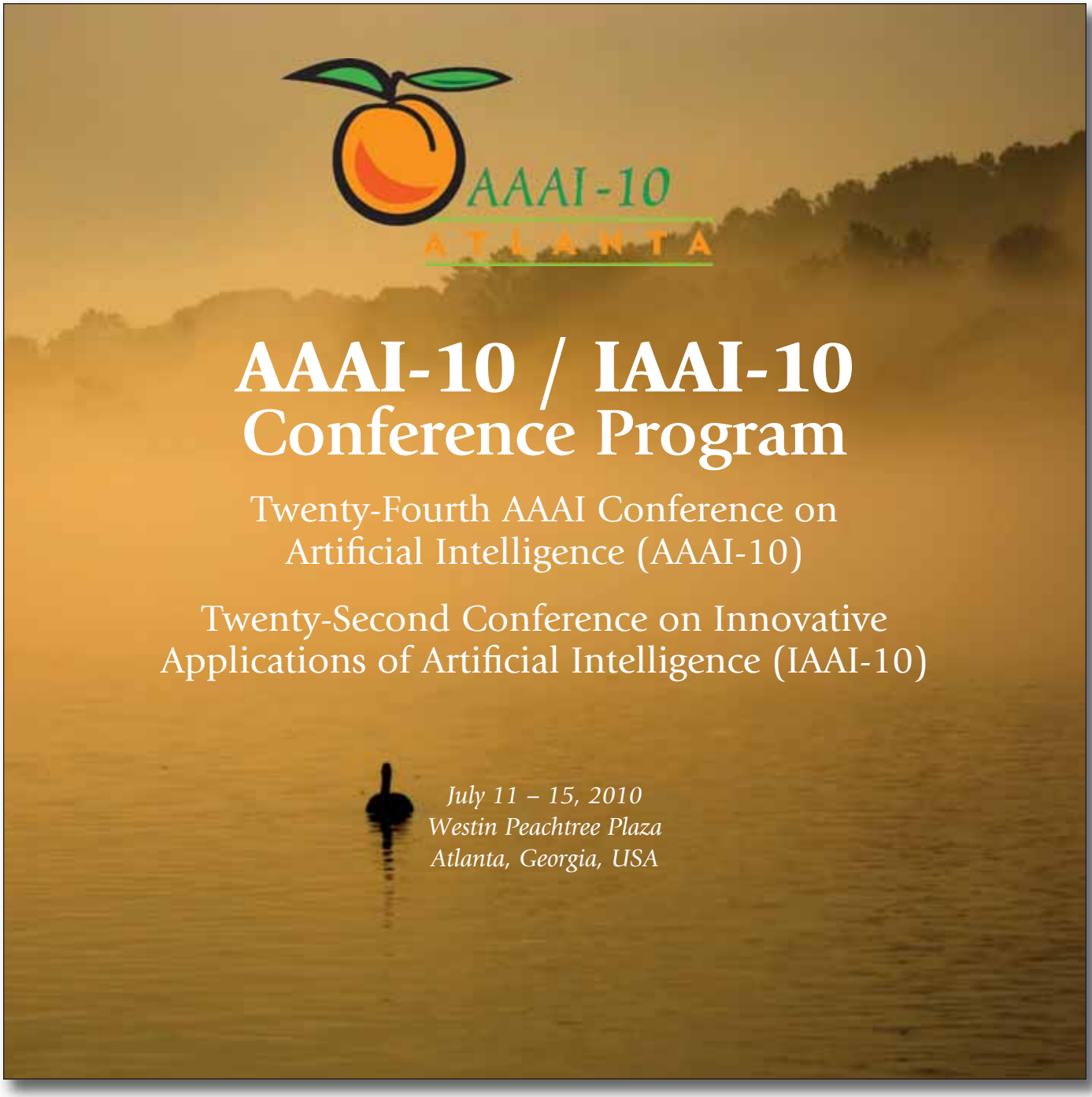

AAAI-10 / IAAI-10 Conference Program

Twenty-Fourth AAAI Conference on Artificial Intelligence (AAAI-10)

Twenty-Second Conference on Innovative Applications of Artificial Intelligence (IAAI-10)

July 11 – 15, 2010
Westin Peachtree Plaza
Atlanta, Georgia, USA

Cover photograph courtesy Sébastien Windal, Atlanta, Georgia

Sponsored by the
Association for the Advancement of Artificial Intelligence

Cosponsored by the National Science Foundation, Microsoft Research, Google, Inc., Cornell University Institute for Computational Sustainability, Naval Research Laboratory, Yahoo! Research Labs, iRobot, NASA Ames Research Center, University of Southern California/Information Sciences Institute, IBM Research, Intel, Educational Affairs Group, Computer Science Department, Stanford University, David E. Smith, and ACM/SIGART

Contents

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AAAI gratefully acknowledges the generous contributions of the following organizations to AAAI-10:

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Acknowledgments

The Association for the Advancement of Artificial Intelligence acknowledges and thanks the following individuals for their generous contributions of time and energy to the successful creation and planning of the Twenty-Fourth AAAI Conference on Artificial Intelligence and the Twenty-Second Conference on Innovative Applications of Artificial Intelligence.

AAAI Conference Committee Chair
Dieter Fox (University of Washington, USA)

AAAI-10 Program Chairs
Maria Fox (University of Strathclyde, UK)
David Poole (University of British Columbia, Canada)

IAAI-10 Conference Chair and Cochair
Nestor Rychtyckyj (Ford Motor Company, USA)
Daniel Shapiro (ISLE, USA)

Symposium on Educational Advances in Artificial Intelligence Chair
Mehran Sahami (Stanford University, USA)

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Lora Aroyo (Free University of Amsterdam, The Netherlands)

Special Track on Artificial Intelligence and Bioinformatics Cochairs
Pierre Baldi (University of California, Irvine, USA)
Paolo Frasconi (Università degli Studi di Firenze, Italy)

Special Track on Challenges in AI Cochairs
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David E. Smith (NASA Ames Research Center, USA)

Special Track on Integrated Intelligence Cochairs
Pat Langley (Arizona State University, USA)
Alan Schultz (Naval Research Laboratory, USA)

Special Track on Physically Grounded Artificial Intelligence Cochairs
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A complete listing of the AAAI-10 and IAAI-10 Program Committee members appears in the conference proceedings.

Awards

All AAAI-10, IAAI-10, and AAAI Special Awards will be presented Tuesday, July 13, 8:30 – 9:00 AM, in the Peachtree Ballroom on the Eighth Floor of the Westin.

AAAI-10 Awards

The AAAI-10 Awards will be presented by Program Cochairs Maria Fox and David Poole.

AAAI-10 Outstanding Paper Awards

A Novel Transition Based Encoding Scheme for Planning as Satisfiability
Ruoyun Huang, Yixin Chen, and Weixiong Zhang (Washington University in St. Louis)

How Incomplete is your Semantic Web Reasoner? Systematic Analysis of the Completeness of Query Answering Systems
Giorgos Stoilos, Bernardo Cuenca Grau, and Ian Horrocks (Oxford University)

AAAI-10 Outstanding Senior Program Committee Member Award

Jerome Lang (IRIT, Université Paul Sabatier, France)

AAAI-10 Outstanding Program Committee Member Award

Chris Beck (University of Toronto, Canada)

IAAI-10 Deployed Applications Awards

The four IAAI-10 Deployed Application Awards will be announced by the IAAI-10 Chair Nestor Rychtyckyj and Cochair Daniel Shapiro. Please see the schedule for paper titles. Certificates will be presented during paper sessions.

Robert S. Engelmore Memorial Award and Lecture

The Robert S. Engelmore Award is sponsored by IAAI-10 and *AI Magazine*, and will be presented by Nestor Rychtyckyj and Daniel Shapiro, IAAI-10 Chair and Cochair,

and David B. Leake, Editor-in-Chief, *AI Magazine*. The award and lecture was established in 2003 to honor Dr. Engelmore's extraordinary service to AAAI, *AI Magazine*, and the AI applications community, and his contributions to applied AI. The 2010 award will be presented to Jay M. Tenenbaum (CollabRx Inc.) for pioneering artificial intelligence contributions with extensive applications impact, including seminal work in computer vision and manufacturing along with a visionary role in the birth of electronic commerce. The lecture will be held Tuesday, July 13, 10:20 AM, in the Atlanta Ballroom H on the Seventh Floor of the Westin.

AAAI Special Awards

The AAAI Special Awards will be presented by Eric Horvitz, Awards Committee Chair and AAAI Past President, and Henry Kautz, AAAI President.

Classic Paper Award

The 2010 AAAI Classic Paper award honors the authors of the paper(s) deemed most influential from the Ninth National Conference on Artificial Intelligence, held in 1991 in Anaheim, California.

Systematic Nonlinear Planning
David McAllester and David Rosenblitt

Distinguished Service Award

The AAAI Distinguished Service award recognizes one individual each year for extraordinary service to the AI community. The 2010 recipient is Alan K. Mackworth, professor of computer science and Canada Research Chair in Artificial Intelligence at the University of British Columbia, for his outstanding service to AI, including seminal scientific contributions in constraint-based representations and methods, with pioneering efforts in machine vision, robotics, and situated agents, and his sustained service in numerous key leadership roles, including the presidencies of AAAI, IJCAI, and the Canadian Society for Computational Studies of Intelligence, amidst a lifetime of catalyzing and promoting AI research.

IJCAI-*JAIR* Best Paper Prize

The IJCAI-*JAIR* Best Paper Prize, which will be presented by Adnan Darwiche, editor-in-chief of *JAIR*, is awarded to an outstanding paper published in *JAIR* in the preceding five calendar years. The award is presented to:

SATzilla: Portfolio-based Algorithm Selection for SAT
L. Xu, F. Hutter, H. H. Hoos, and K. Leyton-Brown (2008)
JAIR 32, 565–606

Honorable Mention:

Knowledge Derived from Wikipedia for Computing Semantic Relatedness
S. P. Ponzetto and M. Strube (2007)
JAIR 30, 181-212

Keynote Address

Leslie Pack Kaelbling
(Massachusetts Institute of Technology)
Tuesday, July 13, 9:00 – 10:00 AM

Peachtree Ballroom, Eighth Floor

Since the inception of the field, one of the visions of artificial intelligence has been robust, intelligent, general-purpose robots that interact with the real world. We have made useful progress in that direction, but there is still a long way to go. Kaelbling will characterize one view of how we might achieve this goal, describe some intermediate results, and characterize important technical and methodological problems that must be solved to make that vision real.

Leslie Pack Kaelbling is the Ellen Swallow Richards Professor of Computer Science and Engineering at the Computer Science and Artificial Intelligence Laboratory (CSAIL) at the Massachusetts Institute of Technology. She has made research contributions to decision-making under uncertainty, learning, and sensing with applications to robotics, with a particular focus on reinforcement learning and planning in partially observable domains. She holds an A.B in philosophy and a Ph.D. in computer science from Stanford University, and has previously held positions at SRI International, Teleos Research, and Brown University. She is the recipient of the US NSF Presidential Faculty Fellowship, the IJCAI Computers and Thought Award, and several teaching prizes, and is a fellow of the AAAI. She was the founder and editor-in-chief of the *Journal of Machine Learning Research.*

Social Events

Opening Reception

The AAAI-10 Opening Reception will be held Monday, July 12, 6:00 – 7:00 PM in the Peachtree Ballroom of the Westin Peachtree Plaza. This event will provide the traditional opportunity for attendees to socialize in a relaxed setting prior to the beginning of the first day of technical sessions. A variety of hors d'oeuvres and a no-host bar will be available. Admittance to the reception is free to AAAI-10 technical registrants. A $50.00 per person fee ($25.00 for children) will be charged for spouses and other nontechnical conference registrants.

AAAI-10 Poster Session

A conference-wide poster session will be held on Wednesday, July 14, 6:30 – 9:30 PM in the Peachtree Ballroom of the Westin and will feature exemplary AAAI-10 Technical Program posters, Student Abstracts, Doctoral Consortium Abstracts, Educational Advances in AI Symposium posters, and Poker Competition posters. (For a complete listing of posters, please refer to page 17.) The accompanying reception will include a light dinner buffet and a no-host bar. Admittance to the reception is free to AAAI-10 registrants. A $50.00 per person fee ($25.00 for children) will be charged for spouses and other nontechnical conference registrants.

Workshop Program

Registration for a workshop requires a supplemental fee for AAAI-10 technical registrants. Individuals who do not wish to participate in any other AAAI-10 programs or events may elect the workshop only registration fee.

Sunday, July 11

W1: AI and Fun

Organizers: Mark Riedl, Vadim Bulitko, Charles Isbell, and Ashwin Ram

Tower Room 1201, Eighth Floor
8:45 AM – 6:00 PM

W2: Bridging the Gap between Task and Motion Planning

Organizers: Maxim Likhachev, Bhaskara Marthi, Conor McGann, and David Smith

Tower Room 1202, Eighth Floor
9:00 AM – 5:30 PM

W3: Collaboratively-Built Knowledge Sources and Artificial Intelligence

Organizers: Vivi Nastase, Roberto Navigli, and Fei Wu

Tower Room 1203, Eighth Floor
9:00 AM – 6:00 PM

W7: Metacognition for Robust Social Systems

Organizers: Anita Raja and Darsana Josyula

Tower Room 1204, Eighth Floor
9:00 AM – 5:10 PM

W8: Model Checking and Artificial Intelligence

Organizers: Ron van der Meyden and Jan-Georg Smaus

Tower Room 1205, Eighth Floor
9:00 AM – 6:30 PM

W9: Neural-Symbolic Learning and Reasoning

Organizers: Artur d'Avila Garcez, Pascal Hitzler, and Luis Lamb

Tower Room 1206, Eighth Floor
9:00 AM – 6:00 PM

W12: Visual Representations and Reasoning

Organizers: Keith McGreggor and Maithilee Kunda

Tower Room 1207, Eighth Floor
9:00 AM – 5:30 PM

Monday, July 12

W4: Goal-Directed Autonomy

Organizers: David Aha, Matthew Klenk, Hector Munoz-Avila, Ashwin Ram, and Daniel Shapiro

Tower Room 1201, Eighth Floor
9:00 AM – 6:00 PM

W5: Intelligent Security

Organizers: Mark Boddy, Stefan Edelkamp, and Robert P. Goldman

Tower Room 1202, Eighth Floor
9:00 AM – 6:00 PM

W6: Interactive Decision Theory and Game Theory

Organizers: Piotr Gmytrasiewicz, Prashant Doshi, and Karl Tuyls

Tower Room 1203, Eighth Floor
8:50 AM – 5:15 PM

W10: PAIR: Plan, Activity, and Intent Recognition 2010

Organizers: Christopher Geib, David Pynadath, Hung Bui, and Gita Sukthankar

Tower Room 1204, Eighth Floor
8:45 AM – 6:00 PM

W11: Statistical Relational AI

Organizers: Kristian Kersting, Stuart Russell, Leslie Pack Kaelbling, Alon Halevy, Sriraam Natarajan, and Lilyana Mihalkova

Atlanta Ballroom A, Seventh Floor
8:45 AM – 6:00 PM

W13: Workshop on Abstraction, Reformulation, and Approximation

Organizers: Gregory Provan and Ashish Sabharwal

Tower Room 1205, Eighth Floor
9:00 AM – 5:15 PM

Postworkshop Technical Reports

A limited number of workshop technical report CDs will be available for sale after the conclusion of the workshop program at the registration desk. Individual technical reports are also available from www.aaai.org/Press/Reports/Workshops.

Student Programs

AAAI-10 Student Only Reception

The USC/Information Sciences Institute will host the fourth annual AAAI Student Only Reception, Tuesday, July 13 from 5:45-6:45 PM in International Rooms F/G/H on the sixth floor of the Westin Peachtree Plaza. Snacks and beverages will be served. All AAAI-10 registered students are welcome.

AAAI Fellow / Student Lunches

First held in 2006, this program provides an opportunity for a small number of students to chat with a AAAI Fellow over an informal lunch during the conference. Preregistration prior to the conference was required. Preregistered students should meet their designated Fellow in onsite registration in the Overlook on the sixth floor of the Westin on their assigned day.

AAAI/SIGART Doctoral Consortium (DC-10)

The Fifteenth AAAI/SIGART Doctoral Consortium program will be held on Sunday and Monday, July 11-12, in Augusta I/II on the seventh floor of the Westin. The Doctoral Consortium provides an opportunity for a group of Ph.D. students to discuss and explore their research interests and career objectives in an interdisciplinary workshop together with a panel of established researchers. The fifteen students accepted to participate in this program will also participate in the AAAI-10 Poster Session. All interested AAAI-10 student registrants are invited to observe the presentations and participate in discussions at the workshop. AAAI and SIGART gratefully acknowledge grants from the National Science Foundation, Microsoft Research, Yahoo! Research, and David E. Smith, which provide partial funding for this event. (See schedule on page 8).

AAAI Fellows Recognition

Each year, the Association for the Advancement of Artificial Intelligence recognizes a small number of members who have made significant sustained contributions to the field of artificial intelligence, and who have attained unusual distinction in the profession. AAAI is pleased to announce the eight newly elected Fellows for 2010, who will be honored during the annual Fellows dinner on Tuesday, July 13:

Pedro Domingos (University of Washington)
Nicholas R. Jennings (University of Southampton)
Michael L. Littman (Rutgers University)
Christopher D. Manning (Stanford University)
Bernhard Nebel (Albert-Ludwigs-Universitaet Freiburg)
Yoram Singer (Google)
Padhraic Smyth (University of California, Irvine)
Moshe Tennenholtz (Technion – Israel Institute of Technology)

For information about the special competition awards, please see the section on AAAI-10 Competitions elsewhere in this program.

Morning	Afternoon	Evening
	Sunday, July 11	
Registration Tutorial Forum Workshops AAAI/SIGART DC	Registration Tutorial Forum Workshops AAAI/SIGART DC	
	Monday, July 12	
Registration Tutorial Forum Workshops AAAI/SIGART DC Game Playing Competition	Registration AAAI Business Meeting Tutorial Forum Workshops AAAI/SIGART DC Game Playing Competition	Opening Reception Video Competition
	Tuesday, July 13	
Registration AAAI-10 Keynote Address AAAI-10, IAAI-10, and EAAI-10 Game Playing Competition Poker Competition Robotics Program Exhibits	Registration Invited Talks AAAI-10, IAAI-10, and EAAI-10 Game Playing Competition Poker Competition Robotics Program Exhibits	Student Reception Fellows Dinner
	Wednesday, July 14	
Registration Invited Talks AAAI-10, IAAI-10, and EAAI-10 Robotics Program Exhibits	Registration Invited Talks AAAI-10, IAAI-10, and EAAI-10 Robotics Program Exhibits	Poster Reception
	Thursday, July 15	
Registration Invited Talks AAAI-10 and IAAI-10 Robotics Program Exhibits	AAAI-10 and IAAI-10 Robotics Program	

Invited Talks

Tuesday, July 13

9:00 – 10:00 AM

AAAI Keynote Address

Intelligent Interaction with the Real World

Leslie Pack Kaelbling (Massachusetts Institute of Technology)
Peachtree Ballroom, Eighth Floor *(see description on page 3)*

10:20 – 11:20 AM

IAAI-10 Invited Talk: Robert S. Engelmore Memorial Award Lecture

Cancer: A Computational Disease that AI Can Cure

Jay M. Tenenbaum (CollabRx Inc.)
Atlanta Ballroom H, Seventh Floor

See description, page 7.

1:50 – 2:50 PM

AAAI-10 Invited Talk

Systems with General Intelligence: A New Perspective

Michael Thielscher (The University of New South Wales)
Peachtree Ballroom, Eighth Floor

General intelligence enables agents and robots to adapt automatically to previously unknown situations. This new level of autonomy has recently been achieved in Computer Game Playing with the advent of programs that understand the rules of new games and learn to play them well without human intervention. This talk will advocate agents and robots with general intelligence as a Grand Challenge, aiming at the next generation of AI systems that can be told what we expect from them and that learn to carry out radically different tasks in radically new environments. It will be argued that this calls for a new research focus for AI with the goal to integrate different, successful AI methodologies.

Wednesday, July 14

9:00 – 10:00 AM

AAAI-10 Invited Talk

Challenges for AI in Computational Sustainability

Carla P. Gomes (Cornell University)
Peachtree Ballroom, Eighth Floor

Computational sustainability is a new interdisciplinary research field with the overall goal of developing computational models, methods, and tools to help manage the balance between environmental, economic, and societal needs for a sustainable future. In this talk I will provide an overview of computational sustainability, with examples ranging from wildlife conservation and biodiversity, to poverty mitigation, to large-scale deployment and management of renewable energy sources. I will highlight overarching computational challenges for AI at the intersection of constraint reasoning, optimization, machine learning, and dynamical systems. Finally I will discuss the need for a new approach that views computational sustainability problems as "natural" phenomena, amenable to a scientific methodology, in which principled experimentation, to explore problem parameter spaces and hidden problem structure, plays as prominent a role as formal analysis.

10:20 – 11:20 AM

IAAI-10 Invited Talk

A New Paradigm of Geriatric Care Empowered by Applied AI

Majd Alwan (Center for Aging Services Technologies)
Atlanta Ballroom H, Seventh Floor

Advances in sensor, communication, AI technologies and data processing, coupled with the increasing processing power, is causing a shift in the way we care for the elderly. Alwan presents a new paradigm for geriatric care based on monitoring and assisting older adults in their own living settings.

AI techniques could be applied to mine health and activity data collected in the home to detect indicators of early disease onset, deterioration or improvement, inform providers and allow the delivery of care services, including assistance and support. Examples of monitoring and assistive systems that apply AI techniques are discussed. The approach has significant value to older adults as well as caregivers, and allows care providers to extend services into the community.

1:50 – 2:50 PM

AAAI-10 Invited Talk

Incentive Engineering in the Internet Age

David C. Parkes (Harvard University)
Peachtree Ballroom, Eighth Floor

Mechanism design provides a formalism within which to understand the possible and the impossible when designing multi-agent systems with private information and rational agents. In introducing computational considerations, we have gained some understanding of how to reconcile new tensions that arise. Today, we see a thirst for practical, engineered incentive mechanisms to deploy across the myriad of multiuser systems enabled by the Internet. I will highlight some of the new challenges that this presents, in moving from isolated events to continual processes, from simple models to complex, multifaceted agent models, and in enabling new kinds of computational and coordination processes.

Thursday, July 15

9:00 – 10:00 AM

AAAI-10 Invited Talk

Constraint Programming and Artificial Intelligence: Challenges, Applications and Opportunities

Barry O'Sullivan (University College Cork)
Peachtree Ballroom, Eighth Floor

Constraint programming is a powerful tool for modeling and solving complex optimization problems. It is widely used to support industrial decision-making, as well as being used as a component in various intelligent systems. Constraint programming has its origins in constraint satisfaction and logic programming from the field of artificial intelligence, and mathematical programming from the field of operations research. In this talk I will: identify some of the challenges facing the field; present some exciting applications of constraint programming; and give a view of where opportunities lie for the future from the perspectives of both science and application.

1:50 – 2:50 PM

IAAI-10 Invited Talk

Species of Mind

Vernor Vinge (San Diego State University)
Atlanta Ballroom H, Seventh Floor

More than any other animal, we humans invent ways to outsource cognitive function. We've been doing this for a long time. For instance, writing is an outsourcing of memory; money is a scalar that allows the comparison of vastly different objects. During the last century, the outsourcing process has become more diverse and intense. The range of our recent activities is leading toward a number of different kinds of superhuman intelligence. In this presentation, I'll discuss several different paths to superintelligence, their relative power, the transformations they might create, and how humans might deal with them.

IAAI-10 Invited Talk

Robert S. Engelmore Memorial Award Lecture: Cancer: A Computational Disease that AI Can Cure

Jay M. Tenenbaum (CollabRx Inc.)

Tuesday, 10:20–11:20 AM
Atlanta Ballroom H, Seventh Floor

Cancer results from finite genomic mutations that biotechnology can easily list, and that we can mostly understand and reason about in terms of the underlying biochemistry. Tragically, the scientific and medical communities are searching for cures using an incredibly inefficient non-adaptive strategy, where the costs of experiments are measured in lives, as well as money, and where we capture only a small portion of the genomics and outcomes data, i.e., in clinical trials. Inspired by my career experiences as an AI researcher, Internet entrepreneur and cancer survivor, I am attempting to redress this situation through Cancer Commons, a "rapid learning" community of patients, physicians and researchers. Our goal is to cure cancer by collecting the genomic and response data from thousands of adaptively-planned individual treatment experiments, integrating the resulting sparse fragments of evidence to infer the true causal mechanisms of tumors and drugs, and generalizing the resulting knowledge so that it can be applied to new cases. Each patient is treated in accord with the best available knowledge, and that knowledge is continually updated to benefit the next patient. Hopefully, this adaptive approach will efficiently climb the hill to find cures for cancer, one patient at a time.

Tutorial Forum

AAAI-10 technical registrants may attend up to four consecutive tutorials for an additional registration fee.

Session I: Sunday, July 11
9:00 AM – 1:00 PM

SA1: AI and Machine Consciousness
Antonio Chella
Atlanta Ballroom B, Seventh Floor

SA2: Exploiting Statistical and Relational Information on the Web and in Social Media: Applications, Techniques, and New Frontiers
Lise Getoor and Lilyana Mihalkova
Atlanta Ballroom C, Seventh Floor

SA3: Large-Scale Ontology Reasoning and Querying
Jeff Z. Pan, Guilin Qi, and Jianfeng Du
Tower Room 1208, Twelfth Floor

SA4: Reinforcement Learning Algorithms for MDPs
Csaba Szepesvari and Rich Sutton
Atlanta Ballroom F, Seventh Floor

Session II: Sunday, July 11
2:00 PM – 6:00 PM

SP1: Bayesian Networks with Imprecise Probabilities: Theory and Applications to Knowledge-based Systems and Classification
Alessandro Antonucci and Giorgio Corani
Atlanta Ballroom B, Seventh Floor

SP2: Cooperative Games in Multi-Agent Systems
Georgios Chalkiadakis, Edith Elkind, and Mike Wooldridge
Atlanta Ballroom C, Seventh Floor

SP3: Rules on the Semantic Web: Advances in Knowledge Representation and Standards
Benjamin Grosof, Mike Dean, and Michael Kifer
Atlanta Ballroom G, Seventh Floor

SP4: Towards Intelligent Web Search: Inferring Searcher Intent
Eugene Agichtein
Atlanta Ballroom F, Seventh Floor

Session III: Monday, July 12
9:00 AM – 1:00 PM

MA1: An Introduction to Constraint Programming and Combinatorial Optimisation through Numberjack
Barry O'Sullivan, Emmanuel Hebrard, and Eoin O'Mahony
Atlanta Ballroom B, Seventh Floor

MA2: How to Integrate Ontologies and Rules?
Thomas Eiter, Stijn Heymans, Luis Polo, and Adeline Nazarenko
Tower Room 1208, Twelfth Floor

MA3: Sampling Techniques for Probabilistic and Deterministic Graphical Models
Rina Dechter, Bozhena Bidyuk, and Vibhav Gogate
Atlanta Ballroom G, Seventh Floor

MA4: Voting Theory
Ulle Endriss
Atlanta Ballroom F, Seventh Floor

Session IV: Monday, July 12
2:00 PM – 6:00 PM

MP1: Description Logics for Data Access
Giuseppe De Giacomo and Domenico Lembo
Tower Room 1208, Twelfth Floor

MP2: Machine Learning Meets Knowledge Representation in the Semantic Web
Francesca Lisi
Atlanta Ballroom C, Seventh Floor

MP3: Preferences and Partial Satisfaction in Planning
J. Benton, Jorge Baier, and Subbarao Kambhampati
Atlanta Ballroom G, Seventh Floor

Special Meetings

AAAI Business Meeting

The AAAI Annual Business Meeting will be held Monday, July 12, 12:45 – 1:15 PM, Atlanta H, Seventh Level, Westin Peachtree Plaza.

AAAI Conference Committee Meeting

AAAI Conference Committee Meeting will be held Thursday, July 15, 7:45 – 8:45 AM, Roswell II, Eighth Floor, Westin Peachtree Plaza.

AAAI Executive Council Meeting

The AAAI Executive Council Meeting will be held Monday, July 12, 9:00 AM – 4:00 PM, Roswell I, Eighth Floor, Westin Peachtree Plaza. Continental breakfast will be available at 8:30 AM.

AAAI Publications Committee Meeting

The AAAI Publications Committee Meeting will be held Wednesday, July 14, 7:45 – 8:45 AM, Roswell II, Eighth Floor, Westin Peachtree Plaza.

***AI Journal* Editorial Board Meeting**

The AI Journal Editorial Board Meeting will be held Tuesday, July 13, 12:30 – 2:00 PM, International A, Sixth Floor, Westin Peachtree Plaza.

***AI Magazine* Editorial Board Meeting**

The *AI Magazine* Editorial Board Meeting will be held Wednesday, July 14, 12:30 – 2:00 PM, Roswell II, Eighth Floor, Westin Peachtree Plaza.

Doctoral Consortium Schedule

Sunday, July 11

9:00 – 9:20 AM

Welcome

9:20 – 10:00 AM
Nonparametric Bayesian Approaches for Reinforcement Learning in Partially Observable Domains
Finale Doshi-Velez (Mentor: Sven Koenig)

10:00 – 10:40 AM
Integrating Reinforcement Learning into a Programming Language
Christopher L. Simpkins (Mentor: Sven Koenig)

10:40 – 11:10 AM
Break

11:10 – 11:50 AM
Integrating Expert Knowledge and Experience
Ben Weber (Mentor: David Aha)

11:50 AM – 12:30 PM
Multi-Agent Fault Tolerance Inspired by a Computational Analysis of Cancer
Megan Olsen (Mentor: Elizabeth Sklar)

12:30 – 1:15 PM
Lunch

1:15 – 2:15 PM
Presentation: How To Develop A Research Program

2:15 – 2:55 PM
Interactive Task-Plan Learning
Shuonan Dong (Mentor: Marie desJardins)

2:55 – 3:35 PM
Preferences and Learning in Multi-Agent Negotiation
Reyhan Aydogan (Mentor: Gita Sukthankar)

3:35 – 4:05 PM
Break

4:05 – 4:45 PM
On Multi-Robot Area Coverage
Pooyan Fazli (Mentor: Maria Gini)

4:45 – 5:25 PM
Towards a Robust Deep Language Understanding System
Mehdi Manshadi (Mentor: Ray Mooney)

7:00 PM
Dinner

Monday, July 12

9:00 – 9:20 AM
Welcome

9:20 – 10:00 AM
Continual On-Line Planning
Sofia Lemons (Mentor: Dragos Margineantu)

10:00 – 10:40 AM
Enhancing Affective Communication in Embodied Conversational Agents
Michelle Leonhardt (Mentor: Stephanie August)

10:40 – 11:10 AM
Break

11:10 – 11:50 AM
Framework and Schema for Semantic Web Knowledge Bases
James McGlothin (Mentor: Chris Brooks)

11:50 AM – 12:30 PM
Local Optimization for Simulation of Natural Motion
Tom Erez (Mentor: Doina Precup)

12:30 – 1:15 PM
Lunch

1:15 – 2:15 PM
Panel

2:15 – 2:45 PM
Computational Social Choice: Strategic and Combinatorial Aspects
Lirong Xia (Mentor: Maria Gini)

2:45 – 3:25 PM
Detecting Social Ties and Copying Events from Affiliation Data
Lisa Friedland (Mentor: Kiri Wagstaff)

3:25 – 4:05 PM
Hierarchical Skill Learning for High-Level Planning
James MacGlashan (Mentor: Brad Clement)

4:05 – 4:30 PM
Wrap-up

AAAI 2010 Symposium on Educational Advances in AI (EAAI-10)

New for 2010, EAAI-10 provides a venue for researchers and educators to discuss pedagogical issues and share resources related to teaching AI and using AI in education across a variety of curricular levels (K-12 through postgraduate training), with a natural emphasis on undergraduate and graduate teaching and learning. The symposium will explore how to more effectively teach AI, as well as how themes from AI may be used to enhance education more broadly. EAAI-10 features a technical program, a poster program as part of the conference-wide poster session on Wednesday evening, and a "Model AI" session highlighting innovative, ready-to-adopt materials. A post-symposium workshop for mentoring new faculty, instructors, and graduate students on teaching will be held on Wednesday, July 14. Finally, a Student/Educator Track will be included in the AAAI-10 Robotics Exhibition and Workshop. EAAI-10 is included in the AAAI-10 technical registration fee.

EAAI Schedule

The Symposium on Educational Advances in AI (EAAI-10) will be held in Augusta Room I/II, Seventh Floor

July 13, 2010

10:20 – 11:20 AM

Welcome and Invited Talk

Welcome
Mehran Sahami, EAAI-10 Chair

EAAI-10 Invited Talk: Technology for Teaching the Rest of Us
Mark Guzdial (Georgia Institute of Technology)

11:30 AM – 12:30 PM

Paper Session I: Teaching AI

Teaching Introductory Artificial Intelligence with Pac-Man
John DeNero, Dan Klein (UC Berkeley)

A Course-Long Information Retrieval Project
David Kauchak (Pomona College)

An Action Research Report from a Multi-Year Approach to Teaching Artificial Intelligence at the K-6 Level
Clint Heinze (Defence Science and Technology Organisation), Janet Haase, Helen Higgins (Manchester Primary School)

1:50 – 2:50 PM

Paper Session II: Using Robots in Education

Leveraging Mixed Reality Infrastructure for Robotics and Applied AI Instruction
Jacky Baltes, John Anderson (University of Manitoba)

Designing the Finch: Creating a Robot Aligned to Computer Science Concepts
Tom Lauwers, Illah Nourbakhsh (Carnegie Mellon University)

The Tekkotsu "Crew": Teaching Robot Programming at a Higher Level
David S. Touretzky, Ethan J. Tira-Thompson (Carnegie Mellon University)

3:00 – 4:00 PM

Model AI Assignments Session I: Teaching AI with Games

The Pac-Man Projects Software Package for Introductory Artificial Intelligence
John DeNero, Dan Klein (University of California, Berkeley)

A Project on Any-Angle Path-Planning for Computer Games for "Introduction to Artificial Intelligence" Classes
Sven Koenig, Kenny Daniel, Alex Nash (University of Southern California)

A Project on Fast Trajectory Replanning for Computer Games for "Introduction to Artificial Intelligence" Classes
Sven Koenig, William Yeoh (University of Southern California)

A Project on Gesture Recognition with Neural Networks for "Introduction to Artificial Intelligence" Classes
Xiaoming Zheng, Sven Koenig (University of Southern California)

4:20 – 5:20 PM

Model AI Assignments Session II: Teaching Topics in AI

Getting Set with OpenCV
Zachary Dodds (Harvey Mudd College)

Assignment on CSPs for First Undergraduate AI Course
Giuseppe Carenini, David Poole, CPSC322 Team (University of British Columbia)

Rook Jumping Maze Generation
Todd Neller (Gettysburg College)

An Introduction to Genetic Algorithms
Christopher Brooks (University of San Francisco)

5:20 – 5:40 PM

Poster Spotlights

A Simulator for Teaching Robotics Programming using the iRobot Create
Andrew Hettlinger, Matthew R. Boutell (Rose-Hulman Institute of Technology)

Teaching Artificial Intelligence and Robotics via Games
Daniel Wong, Ryan Zink, Sven Koenig (University of Southern California)

(The EAAI poster session is part of the main AAAI poster session on Wednesday, July 14th from 6:30 PM-9:30 PM.)

July 14, 2010

10:20 AM – 11:20 AM

EAAI-10 Teaching and Mentoring Workshop

Creating Classroom Engagement
Small groups discuss ideas for how to teach specific AI topics in engaging ways (for example, demos, interactive activities, case studies, student-led sessions, and so on).

11:30 AM – 12:30 PM

EAAI-10 Teaching and Mentoring Workshop

Handling Teaching Challenges
Panel discussion on difficult teaching issues (e.g., academic integrity/cheating, balancing teaching with other obligations, classroom management, etc.). Share your challenging moments and discuss ideas for solutions.

	ATLANTA A	ATLANTA B	ATLANTA C	ATLANTA D
8:30–10:00 AM	8:30 – 9:00 AM *AAAI-10/IAAI-10 Opening Ceremony* **Welcome and Opening Remarks** *All events in this time slot will be held in the Peachtree Ballroom, 8th Floor*		AAAI Welcome, Outstanding Award Presentations — Papers, SPC Member, PC Member *Maria Fox and David Poole, AAAI-10 Program Cochairs* IAAI Welcome, Robert S. Engelmore Award, Deployed Application Award Announcements *Nestor Rychtyckyj, IAAI-10 Conference Chair, Daniel Shapiro, IAAI-10 Program Cochair, and David Leake, AI Magazine Editor-in-Chief*	
10:20–11:20 AM	**Dimensionality Reduction 1** Two-Stage Sparse Representation for Robust Recognition on Large-Scale Database *Ran He, BaoGang Hu, Wei-shi Zheng, Yan-Qing Guo* Discriminant Laplacian Embedding *Hua Wang, Heng Huang, Chris Ding* Gaussian Process Latent Random Field *Guoqiang Zhong, Wu-Jun Li, Dit-Yan Yeung, Xinwen Hou, Cheng-Lin Liu*	**Search 1** EWLS: A New Local Search for Minimum Vertex Cover *Shaowei Cai, Kaile Su, Qingliang Chen* Optimal Rectangle Packing on Non-Square Benchmarks *Eric Huang, Richard E. Korf* 1.6-Bit Pattern Databases *Teresa M. Breyer, Richard E. Korf*	**Game Playing** Symmetry Detection in General Game Playing *Stephan Schiffel* A General Game Description Language for Incomplete Information Games *Michael Thielscher* Learning Simulation Control in General Game-Playing Agents *Hilmar Finnsson, Yngvi Björnsson*	**Auctions 1** *Challenges in AI:* Hidden Market Design *Sven Seuken, Kamal Jain, David C. Parkes* Envy Quotes and the Iterated Core-Selecting Combinatorial Auction *Abraham Othman, Tuomas Sandholm* Dynamic Auction: A Tractable Auction Procedure *Dongmo Zhang, Wei Huang, Laurent Perrussel*
11:30 AM–12:30 PM	**Dimensionality Reduction 2** Conformal Mapping by Computationally Efficient Methods *Stefan Pintilie, Ali Ghodsi* Non-I.I.D. Multi-Instance Dimensionality Reduction by Learning a Maximum Bag Margin Subspace *Wei Ping, Ye Xu, Kexin Ren, Chi-Hung Chi, Furao Shen* Multi-Instance Dimensionality Reduction *Yu-Yin Sun, Michael K. Ng, Zhi-Hua Zhou*	**Search 2** Using Lookaheads with Optimal Best-First Search *Roni Stern, Tamar Kulberis, Ariel Felner, Robert Holte* Understanding the Success of Perfect Information Monte Carlo Sampling in Game Tree Search *Jeffrey Long, Nathan R. Sturtevant, Michael Buro, Timothy Furtak* Parallel Depth First Proof Number Search *Tomoyuki Kaneko*	**Coalitional Games** *Challenges in AI:* Collusion Detection in Online Bridge *Jeff Yan* Approximate Coalition Structure Generation *Travis C. Service, Julie A. Adams* Transferable Utility Planning Games *Ronen I. Brafman, Carmel Domshlak, Yagil Engel, Moshe Tennenholtz*	**Auctions 2** Automated Channel Abstraction for Advertising Auctions *William E. Walsh, Craig Boutilier, Tuomas Sandholm, Rob Shields, George Nemhauser, David C. Parkes* Stability and Incentive Compatibility in a Kernel-Based Combinatorial Auction *Sébastien Lahaie* Asymmetric Spite in Auctions *Ankit Sharma, Tuomas Sandholm*
1:50–2:50 PM	*AAAI-10 Invited Talk* **Systems with General Intelligence: A New Perspective** Michael Thielscher (The University of New South Wales) Peachtree Ballroom, 8th Floor			
3:00–4:00 PM	**Dimensionality Reduction 3** Non-Metric Locality-Sensitive Hashing *Yadong Mu, Shuicheng Yan* Non-Negative Matrix Factorization with Constraints *Haifeng Liu, Zhaohui Wu* Nonnegative Matrix Factorization Clustering on Multiple Manifolds *Bin Shen, Luo Si*	**Search 3** Searching without a Heuristic: Efficient Use of Abstraction *Bradford Larsen, Ethan Burns, Wheeler Ruml, Robert C. Holte* Search Space Reduction Using Swamp Hierarchies *Nir Pochter, Aviv Zohar, Jeffrey S. Rosenschein, Ariel Felner* Symmetry within Solutions *Marijn Heule, Toby Walsh*	**Game Theoretic Resource Allocation** Urban Security: Game-Theoretic Resource Allocation… *Jason Tsai, Zhengyu Yin, Jun-young Kwak, D. Kempe, C. Kiekintveld, M. Tambe* Security Games with Arbitrary Schedules: A Branch and Price Approach *Manish Jain, Erim Kardes, Christopher Kiekintveld, Milind Tambe, Fernando Ordóñez* Complexity of Computing Optimal Stackelberg Strategies in Security Resource Allocation Games *Dmytro Korzhyk, Vincent Conitzer, R. Parr*	**Mechanism Design 1** Approximation Algorithms and Mechanism Design for Minimax Approval Voting *Ioannis Caragiannis, Dimitris Kalaitzis, Evangelos Markakis* Can Approximation Circumvent Gibbard-Satterthwaite? *Ariel D. Procaccia* Nonmanipulable Randomized Tournament Selections *Alon Altman, Robert Kleinberg*
4:20–5:20 PM	**Dimensionality Reduction 4** Semi-Supervised Dimension Reduction for Multi-Label Classification *Buyue Qian, Ian Davidson* Assisting Users with Clustering Tasks by Combining Metric Learning and Classification *Sumit Basu, Danyel Fisher, Steven M. Drucker, Hao Lu* Transfer Learning in Collaborative Filtering for Sparsity Reduction *Weike Pan, Evan W. Xiang, Nathan N. Liu, Qiang Yang*	**Search 4** Dealing with Infinite Loops, Underestimation, and Overestimation of Depth-First Proof-Number Search *Akihiro Kishimoto* Single-Frontier Bidirectional Search *Ariel Felner, Carsten Moldenhauer, Nathan Sturtevant, Jonathan Schaeffer* Node Selection Query Languages for Trees *Diego Calvanese, Giuseppe De Giacomo, Maurizio Lenzerini, Moshe Y. Vardi*	**Algorithms 1** Topological Relations between Convex Regions *Sanjiang Li, Weiming Liu* Trial-Based Dynamic Programming for Multi-Agent Planning *Feng Wu, Shlomo Zilberstein, Xiaoping Chen* A Decentralised Coordination Algorithm for Mobile Sensors *Ruben Stranders, Francesco Maria Delle Fave, Alex Rogers, Nicholas R. Jennings*	**Mechanism Design 2** Accounting Mechanisms for Distributed Work Systems *Sven Seuken, Jie Tang, David C. Parkes* Tolerable Manipulability in Dynamic Assignment without Money *James Zou, Sujit Gujar, David Parkes* Truth, Justice, and Cake Cutting *Yiling Chen, John K. Lai, David C. Parkes, Ariel D. Procaccia*
EVENING	**Coffee breaks will be held at 10:00 – 10:20 AM and 4:00 – 4:20 PM. The lunch break will be held from 12:30 – 1:50 PM.** **Student Reception, 5:45–6:45 PM, International F/G/H, 6th Floor**			

	ATLANTA E	ATLANTA F	ATLANTA G	ATLANTA H
8:30–10:00 AM	IJCAI-JAIR Best Paper Prize *Adnan Darwiche, JAIR Editor-in-Chief* AAAI Classic Paper and Distinguished Service Awards *Eric Horvitz, AAAI Past President and Awards Committee Chair and Henry Kautz, AAAI President*		9:00 – 10:00 AM *AAAI-10 Keynote Address:* **Intelligent Interaction with the Real World** Leslie Pack Kaelbling (Massachusetts Institute of Technology) Peachtree Ballroom, 8th Floor	
10:20–11:20 AM	**Learning Graphical Models** Properties of Bayesian Dirichlet Scores to Learn Bayesian Network Structures *Cassio P. de Campos, Qiang Ji* Respecting Markov Equivalence in Computing Posterior Probabilities of Causal Graphical Features *Eun Yong Kang, Ilya Shpitser, Eleazar Eskin* A Topic Model for Linked Documents and Update Rules for its Estimation *Zhen Guo, Shenghuo Zhu, Zhongfei (Mark) Zhang, Yun Chi, Yihong Gong*	**Path Planning 1** Finding Optimal Solutions to Cooperative Pathfinding Problems *Trevor Standley* Search-Based Path Planning with Homotopy Class Constraints *Subhrajit Bhattacharya, Vijay Kumar, Maxim Likhachev* Lazy Theta*: Any-Angle Path Planning and Path Length Analysis in 3D *Alex Nash, Sven Koenig, Craig Tovey*	**AI and the Web: Mining Logs** Diversifying Query Suggestion Results *Hao Ma, Michael R. Lyu, Irwin King* Session Based Click Features for Recency Ranking *Yoshiyuki Inagaki, Narayanan Sadagopan, Georges Dupret, Ciya Liao, Anlei Dong, Yi Chang, Zhaohui Zheng* Prioritization of Domain-Specific Web Information Extraction *Jian Huang, Cong Yu*	**IAAI Invited Talk: Robert S. Engelmore Memorial Award Lecture** Cancer: A Computational Disease that AI Can Cure *Jay M. Tenenbaum (CollabRx Inc.)*
11:30 AM–12:30 PM	**Learning in Graphs 1** Latent Variable Model for Learning in Pairwise Markov Networks *Saeed Amizadeh, Milos Hauskrecht* Transductive Learning on Adaptive Graphs *Yan-Ming Zhang, Yu Zhang, Dit-Yan Yeung, Cheng-Lin Liu, Xinwen Hou* Constrained Co-Clustering for Textual Documents *Yangqiu Song, Shimei Pan, Shixia Liu, Furu Wei, Michelle X. Zhou, Weihong Qian*	**Path Planning 2** g-Planner: Real-Time Motion Planning and Global Navigation Using GPUs *Jia Pan, Christian Lauterbach, Dinesh Manocha* A Single-Step Maximum A Posteriori Update for Bearing-Only SLAM *Stephen Tully, George Kantor, Howie Choset* Collaborative Filtering Meets Mobile Recommendation: A User-Centered Approach *Vincent W. Zheng, Bin Cao, Yu Zheng, Xing Xie, Qiang Yang*	**AI and the Web: Representation and Reasoning** Integrity Constraints in OWL *Jiao Tao, Evren Sirin, Jie Bao, Deborah L. McGuinness* Materializing and Persisting Inferred and Uncertain Knowledge in RDF Datasets *James P. McGlothlin, Latifur Khan* A General Framework for Representing and Reasoning with Annotated Semantic Web Data *Umberto Straccia, Nuno Lopes, Gergely Lukácsy, Axel Polleres*	**IAAI: Scheduling & Planning** Optimizing Limousine Service with AI *(Deployed)* *Andy Hon Wai Chun* Towards Applying Interactive POMDPs to Real-World Adversary Modeling *Brenda Ng, Carol Meyers, Kofi Boakye, John Nitao*
1:50-2:50 PM				**IAAI: Health & Medicine** Estimation of Human Internal Temperature from Wearable Physiological Sensors *Mark. J. Buller, William J. Tharion, Reed W. Hoyt, Odest Chadwicke Jenkins* Ambulatory Energy Expenditure Estimation: A Machine Learning Approach *Junaith Ahemed Shahabdeen, Amit Baxi, Lama Nachman*
3:00–4:00 PM	**Learning in Graphs 2** Multi-Label Learning with Weak Label *Yu-Yin Sun, Yin Zhang, Zhi-Hua Zhou* Transmission Network Expansion Planning with Simulation Optimization *Russell Bent, Alan Berscheid, G. Loren Toole* Exact Algorithms and Experiments for Hierarchical Tree Clustering *Jiong Guo, Sepp Hartung, Christian Komusiewicz, Rolf Niedermeier, Johannes Uhlmann*	**Robot Modeling** Latent Class Models for Algorithm Portfolio Methods *Bryan Silverthorn, Risto Miikkulainen* The Tree Representation of Feasible Solutions for the TSP with Pickup and Delivery and LIFO Loading *Dejian Tu, Songshan Guo, Hu Qin, Wee-Chong Oon, Andrew Lim* A Computational Model for Saliency Maps by Using Local Entropy *Yuewei Lin, Bin Fang, Yuanyan Tang*	**AI and the Web: Trust** On the Reputation of Agent-Based Web Services *Babak Khosravifar, Jamal Bentahar, Ahmad Moazin, Philippe Thiran* Subjective Trust Inference in Composite Services *Lei Li, Yan Wang* Optimal Social Trust Path Selection in Complex Social Networks *Guanfeng Liu, Yan Wang, Mehmet A. Orgun*	**IAAI: Knowledge-Based Systems I** Reinforcement Learning for Closed-Loop Propofol Anesthesia: A Human Volunteer Study *Brett L Moore, Periklis Panousis, Vivek Kulkarni, Larry D Pyeatt, Anthony G Doufas* Sentiment Extraction: Integrating Statistical Parsing, Semantic Analysis, and Common Sense Reasoning *Lokendra Shastri, Anju G. Parvathy, Abhishek Kumar, John Wesley, Rajesh Balakrishnan*
4:20–5:20 PM	**SAT** A Lower Bound on the Size of Decomposable Negation Normal Form *Knot Pipatsrisawat, Adnan Darwiche* A Restriction of Extended Resolution for Clause Learning SAT Solvers *Gilles Audemard, George Katsirelos, Laurent Simon* New Worst-Case Upper Bound for #2-SAT and #3-SAT with the Number of Clauses as the Parameter *Junping Zhou, Minghao Yin, Chunguang Zhou*	**Integrated Intelligence: Spatial and Perceptual Processing** Using Imagery to Simplify Perceptual Abstraction in Reinforcement Learning Agents *Samuel Wintermute* Integrating Constraint Satisfaction and Spatial Reasoning *Unmesh Kurup, Nicholas L. Cassimatis* Supporting Wilderness Search and Rescue with Integrated Intelligence *Lanny Lin, Michael Roscheck, Michael A. Goodrich, Bryan S. Morse*	**AI and the Web: Link Analysis** Learning to Predict Opinion Share in Social Networks *Masahiro Kimura, Kazumi Saito, Kouzou Ohara, Hiroshi Motoda* GTPA: A Generative Model for Online Mentor-Apprentice Networks *Muhammad Aurangzeb Ahmad, David Huffaker, J. Wang, J. Treem, M. Poole, J. Srivastava* Modeling Dynamic Multi-Topic Discussions in Online Forums *Hao Wu, Jiajun Bu, Chun Chen, Can Wang, Guang Qiu, Lijun Zhang, Jianfeng Shen*	**IAAI: Agents** *(4:20 – 5:50 PM)* A Centralized Multi-Agent Negotiation Approach to Collaborative Air Traffic … *Peter Jarvis, S.Wolfe, F. Enomoto, R. Nado, M. Sierhuis* A Testbed for Investigating Task Allocation Strategies … *(Deployed)* *Nathan Schurr, R. Good, A. Alexander, P. Picciano, G. Ganberg, M. Therrien, B. Beard, J. Holbrook* Agent-Based Decision Support … *Karsten Bsufka, R. Bye, J. Chinnow, S. Schmidt, L. Batyuk*

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Student Reception, 5:45–6:45 PM, International F/G/H, 6th Floor

	ATLANTA A	ATLANTA B	ATLANTA C	ATLANTA D
9:00–10:00 AM	*AAAI-10 Invited Talk* **Challenges for AI in Computational Sustainability** Carla P. Gomes (Cornell University) Peachtree Ballroom, 8th Floor			
10:20–11:20 AM	**Social Choice 1** Fast Local Search Algorithm for Weighted Feedback Arc Set in Tournaments *Fedor V. Fomin, Daniel Lokshtanov, Venkatesh Raman, Saket Saurabh* Good Rationalizations of Voting Rules *Edith Elkind, Piotr Faliszewski, Arkadii Slinko* Stackelberg Voting Games: Computational Aspects and Paradoxes *Lirong Xia, Vincent Conitzer*	**Clustering 1** Gaussian Mixture Model with Local Consistency *Jialu Liu, Deng Cai, Xiaofei He* Multitask Bregman Clustering *Jianwen Zhang, Changshui Zhang* Efficient Spectral Feature Selection with Minimum Redundancy *Zheng Zhao, Lei Wang, Huan Liu*	**Probabilistic Inference 1** New Mini-Bucket Partitioning Heuristics for Bounding the Probability of Evidence *Emma Rollon, Rina Dechter* Efficient Belief Propagation for Utility Maximization and Repeated Inference *Aniruddh Nath, Pedro Domingos* Efficient Lifting for Online Probabilistic Inference *Aniruddh Nath, Pedro Domingos*	**Machine Learning** Smooth Optimization for Effective Multiple Kernel Learning *Zenglin Xu, Rong Jin, Shenghuo Zhu, Michael R. Lyu, Irwin King* Multi-Task Active Learning with Output Constraints *Yi Zhang* Grouping Strokes into Shapes in Hand-Drawn Diagrams *Eric J. Peterson, Thomas F. Stahovich, Eric Doi, Christine Alvarado*
11:30 AM–12:30 PM	**Social Choice 2** Voting Almost Maximizes Social Welfare Despite Limited Communication *Ioannis Caragiannis, Ariel D. Procaccia* Cloning in Elections *Edith Elkind, Piotr Faliszewski, Arkadii Slinko* Compilation Complexity of Common Voting Rules *Lirong Xia, Vincent Conitzer*	**Clustering 2** Cost-Sensitive Semi-Supervised Support Vector Machine *Yu-Feng Li, James T. Kwok, Zhi-Hua Zhou* Adaptive Transfer Learning *Bin Cao, Sinno Jialin Pan, Yu Zhang, Dit-Yan Yeung, Qiang Yang* Nonparametric Curve Extraction Based on Ant Colony System *Qing Tan, Qing He, Zhongzhi Shi*	**MDPs** Relational Partially Observable MDPs *Chenggang Wang, Roni Khardon* Robust Policy Computation in Reward-Uncertain MDPs Using Nondominated Policies *Kevin Regan, Craig Boutilier* Symbolic Dynamic Programming for First-Order POMDPs *Scott Sanner, Kristian Kersting*	**Relational Learning** Structure Learning for Markov Logic Networks with Many Descriptive Attributes *Hassan Khosravi, Oliver Schulte, Tong Man, Xiaoyuan Xu, Bahareh Bina* Informed Lifting for Message-Passing *Kristian Kersting, Youssef El Massaoudi, Babak Ahmadi, Fabian Hadiji* Bayesian Matrix Factorization with Side Information and Dirichlet Process Mixtures *Ian Porteous, Arthur Asuncion, Max Welling*
1:50–2:50 PM	*AAAI-10 Invited Talk* **Incentive Engineering in the Internet Age** David C. Parkes (Harvard University) Peachtree Ballroom, 8th Floor			
3:00–4:00 PM	**Social Choice 3** Convergence to Equilibria in Plurality Voting *Reshef Meir, Maria Polukarov, Jeffrey S. Rosenschein, Nicholas R. Jennings* Possible Winners When New Candidates Are Added: The Case of Scoring Rules *Yann Chevaleyre, Jérôme Lang, Nicolas Maudet, Jérôme Monnot* Lifting Rationality Assumptions in Binary Aggregation *Umberto Grandi, Ulle Endriss*	**Classification** What if the Irresponsible Teachers Are Dominating? A Method of Training on Samples and Clustering on Teachers *Shuo Chen, Jianwen Zhang, Guangyun Chen, Changshui Zhang* Learning Discriminative Piecewise Linear Models with Boundary Points *Kun Gai, Changshui Zhang* Multi-Task Sparse Discriminant Analysis (MtSDA) with Overlapping Categories *Yahong Han, Fei Wu, Jinzhu Jia, Yueting Zhuang, Bin Yu*	**Integrated Intelligence: Goal Processing, Planning, and Execution** Integrating a Closed World Planner with an Open World Robot: A Case Study *Kartik Talamadupula, J. Benton, Paul Schermerhorn, Subbarao Kambhampati, M.Scheutz* Goal-Driven Autonomy in a Navy Strategy Simulation *Matthew Molineaux, Matthew Klenk, David W. Aha* Creating Dynamic Story Plots with Continual Multiagent Planning *Michael Brenner*	**Reinforcement Learning 1** Bayesian Policy Search for Multi-Agent Role Discovery *Aaron Wilson, Alan Fern, Prasad Tadepalli* Reinforcement Learning via Practice and Critique Advice *Kshitij Judah, Saikat Roy, Alan Fern, Thomas G. Dietterich* Reinforcement Learning via AIXI Approximation *Joel Veness, Kee Siong Ng, Marcus Hutter, David Silver*
4:20–5:20 PM	**Social Choice 4** Facilitating the Evaluation of Automated Negotiators Using Peer Designed Agents *Raz Lin, Sarit Kraus, Yinon Oshrat, Ya'akov (Kobi) Gal* The Genetic Algorithm as a General Diffusion Model for Social Networks *Mayank Lahiri, Manuel Cebrian* Facial Age Estimation by Learning from Label Distributions *Xin Geng, Kate Smith-Miles, Zhi-Hua Zhou*	**Causality and Dependency Learning** Dependence Minimizing Regression with Model Selection … *Makoto Yamada, Masashi Sugiyama* Learning Spatial-Temporal Varying Graphs with Applications to Climate Data Analysis *Xi Chen, Yan Liu, Han Liu, Jaime G. Carbonell* G-Optimal Design with Laplacian Regularization *Chun Chen, Zhengguang Chen, Jiajun Bu, Can Wang, Lijun Zhang, Cheng Zhang*	**Probabilistic Knowledge Representations** Inducing Probability Distributions from Knowledge Bases … *Jianbing Ma, Weiru Liu, Anthony Hunter* DTPROBLOG: A Decision-Theoretic Probabilistic Prolog *Guy Van den Broeck, Ingo Thon, Martijn van Otterlo, Luc De Raedt* Probabilistic Possible Winner Determination *Yoram Bachrach, Nadja Betzler, Piotr Faliszewski*	**Reinforcement Learning 2** Using Bisimulation for Policy Transfer in MDPs *Pablo Samuel Castro, Doina Precup* Multi-Agent Learning with Policy Prediction *Chongjie Zhang, Victor Lesser* An Analytic Characterization of Model Minimization in Factored Markov Decision Processes *Wenyuan Guo, Tze-Yun Leong*
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IAAI sessions will be held in Atlanta H. AAAI sessions will be held in Augusta I

	ATLANTA E	ATLANTA F	ATLANTA G	AUGUSTA I / ATLANTA H
9:00–10:00 AM				**IAAI: Sensor Networks & Distributed AI** Fast, Accurate, and Practical Identity … *M. Phielipp, M.Galan, R.Lee, B.Kveton, J.Hightower* A Wiki with Multiagent Tracking … *Nobel Khandaker, Leen-Kiat Soh*
10:20–11:20 AM	**Answer Set Programming** First-Order Indefinability of Answer Set Programs on Finite Structures *Yin Chen, Yan Zhang, Yi Zhou* Situation Calculus as Answer Set Programming *Joohyung Lee, Ravi Palla* Space Efficient Evaluation of ASP Programs with Bounded Predicate Arities *Thomas Eiter, Wolfgang Faber, Mushthofa Mushthofa*	**SAT and QBF 1** A New Algorithm for Weighted Partial MaxSAT *Carlos Ansótegui, Maria Luisa Bonet, Jordi Levy* Exploiting QBF Duality on a Circuit Representation *Alexandra Goultiaeva, Fahiem Bacchus* Exploiting Monotonicity in Interval Constraint Propagation *Ignacio Araya, Gilles Trombettoni, Bertrand Neveu*	**AI and the Web: Machine Learning** Toward an Architecture for Never-Ending Language Learning *Andrew Carlson, Justin Betteridge, Bryan Kisiel, Burr Settles, Estevam R. Hruschka Jr., Tom M. Mitchell* Utilizing Context in Generative Bayesian Models for Linked Corpus *Saurabh Kataria, Prasenjit Mitra, S. Bhatia* PR + RQ = PQ: Transliteration Mining Using Bridge Language *M.Khapra, R. Udupa, A. Kumaran, P. Bhattacharyya*	**Senior Member Papers** Representation Discovery in Sequential … *Sridhar Mahadevan* The Model-Based Approach to Autonomous Behavior: A Personal View *Hector Geffner* Progress on Agent Coordination with Cooperative Auctions *Sven Koenig, Pinar Keskinocak, Craig Tovey* **IAAI Invited Talk** *(Atlanta H)* A New Paradigm of Geriatric Care … *Majd Alwan*
11:30 AM–12:30 PM	**Logical Knowledge Representations** Ontologies and Representations of Matter *Ernest Davis* Ordered Completion for First-Order Logic Programs on Finite Structures *Vernon Asuncion, Fangzhen Lin, Yan Zhang, Yi Zhou* In Defense of Large Qualitative Calculi *Jason Jingshi Li, Jochen Renz*	**SAT and QBF 2** Computing Cost-Optimal Definitely Discriminating Tests *Anika Schumann, Jinbo Huang, Martin Sachenbacher* Hydra: Automatically Configuring Algorithms for Portfolio-Based Selection *Lin Xu, Holger H. Hoos, Kevin Leyton-Brown* An Efficient Branch-and-Bound Algorithm Based on MaxSAT for the Maximum Clique Problem *Chu-Min Li, Zhe Quan*	**AI and the Web: Information Extraction** Temporal Information Extraction *Xiao Ling, Daniel S. Weld* Temporal and Social Context Based Burst Detection from Folksonomies *Junjie Yao, Bin Cui, Yuxin Huang, Xin Jin* Fast Algorithms for Top-k Approximate String Matching *Zhenglu Yang, Jianjun Yu, Masaru Kitsuregawa*	**Multi-Agent Coordination** *Challenges in AI:* Ad Hoc Autonomous Agent Teams … *Peter Stone, Gal A. Kaminka, Sarit Kraus, Jeffrey S. Rosenschein* *Nectar:* Biologically-Inspired Control for Multi-Agent Self-Adaptive Tasks *Chih-Han Yu, Radhika Nagpal* Asynchronous Multi-Robot Patrolling Against Intrusions … *Nicola Basilico, Nicola Gatti, Federico Villa* **For IAAI Machine Learning see p. 16**
1:50-2:50 PM				**IAAI: Knowledge-Based Systems II** *(Atlanta H)* Learning from Sensors and Past Experience in an Autonomous Oceanographic Probe *Albert Vilamala, Enric Plaza, Josep Lluis Arcos* Providing Decision Support for Cosmogenic Isotope Dating *Laura Rassbach, Elizabeth Bradley, Ken Anderson*
3:00–4:00 PM	**Ontologies and Description Logics** Past and Future of DL-Lite *Alessandro Artale, Roman Kontchakov, Vlad Ryzhikov, MIchael Zakharyaschev* A New Approach to Knowledge Base Revision in DL-Lite *Zhe Wang, Kewen Wang, Rodney Topor* *Nectar:* Ontological Reasoning with F-Logic Lite and Its Extensions *Andrea Calì, Georg Gottlob, Michael Kifer, Thomas Lukasiewicz, Andreas Pieris*	**Global Constraints** Propagating Conjunctions of ALLDIFFERENT Constraints *Christian Bessiere, George Katsirelos, Nina Narodytska, Claude-Guy Quimper, Toby Walsh* Filtering Bounded Knapsack Constraints in Expected Sublinear Time *Yuri Malitsky, Meinolf Sellmann, Radoslaw Szymanek* A Stronger Consistency for Soft Global Constraints in Weighted Constraint Satisfaction *J. H. M. Lee, K. L. Leung*	**AI and the Web: Search and IR** Adopting Inference Networks for Online Thread Retrieval *Sumit Bhatia, Prasenjit Mitra* Optimal Strategies for Reviewing Search Results *Jeff Huang, Anna Kazeykina*	**Algorithms 2** *Physically Grounded AI:* Relative Entropy Policy Search *Jan Peters, Katharina Mülling, Yasemin Altün* *AI and Bioinformatics:* Fast Conditional Density Estimation for Quantitative Structure-Activity Relationships *Fabian Buchwald, Tobias Girschick, Stefan Kramer, Eibe Frank* Soundness Preserving Approximation for TBox Reasoning *Yuan Ren, Jeff Z. Pan, Yuting Zhao* **For IAAI Virtual Humans see p. 16**
4:20–5:20 PM	**Logics for Knowledge Representation** Knowledge Compilation in the Modal Logic S5 *Meghyn Bienvenu, Hélène Fargier, Pierre Marquis* Decidable Fragments of First-Order Language under Stable Model Semantics and Circumscription *Heng Zhang, Mingsheng Ying* An Inconsistency-Tolerant Approach to Information Merging Based on Proposition Relaxation *Steven Schockaert, Henri Prade*	**Constraint Satisfaction** A First Practical Algorithm for High Levels of Relational Consistency *Shant Karakashian, Robert J. Woodward, Christopher Reeson, Berthe Y. Choueiry, Christian Bessiere* *Challenges in AI:* Automated Modelling and Solving in Constraint Programming *Barry O'Sullivan* A Proof-Producing CSP Solver *Michael Veksler, Ofer Strichman*	**AI and the Web: Recommendation Systems** Visual Contextual Advertising: Bringing Textual Advertisements to Images *Yuqiang Chen, Ou Jin, Gui-Rong Xue, Jia Chen, Qiang Yang* News Recommendation in Forum-Based Social Media *Jia Wang, Qing Li, Yuanzhu Peter Chen, Jiafen Liu, Chen Zhang, Zhangxi Lin*	**IAAI-10: Sketching** *(Atlanta H)* Sketch Worksheets: A Sketch-based Educational Software System *Panrong Yin, Kenneth D. Forbus, Jeffrey Usher, Brad Sageman, Benjamin D. Jee* A Sketch Recognition System for Recognizing Free-Hand Course of Action Diagrams *T. Hammond, D. Logsdon, B. Paulson, J. Johnston, J. Peschel, A. Wolin, and P. Taele*
EVENING	**Coffee breaks will be held at 10:00 – 10:20 AM and 4:00 – 4:20 PM. The lunch break will be held from 12:30 – 1:50 PM.** **Poster Reception, 6:30–9:30 PM, Peachtree Ballroom, 8th Floor**			

	ATLANTA A	ATLANTA B	ATLANTA C	ATLANTA D
9:00–10:00 AM	*AAAI-10 Invited Talk* **Constraint Programming and Artificial Intelligence: Challenges, Applications and Opportunities** Barry O'Sullivan (University College Cork) Peachtree Ballroom, 8th Floor			
10:20–11:20 AM	**Modeling Preferences and Utilities** Simultaneous Elicitation of Preference Features and Utility *Craig Boutilier, Kevin Regan, Paolo Viappiani* Decomposed Utility Functions and Graphical Models for Reasoning about Preferences *Ronen I. Brafman, Yagil Engel* The Induction and Transfer of Declarative Bias *Will Bridewell, Ljupco Todorovski*	**Task Assignment** Sequential Incremental-Value Auctions *Xiaoming Zheng, Sven Koenig* Increasing Threshold Search for Best-Valued Agents *David Sarne, Simon Shamoun, Eli Rata* Decision-Theoretic Control of Crowd-Sourced Workflows *Peng Dai, Mausam, Daniel S. Weld*	**Probabilistic Inference 2** Integrating Sample-Based Planning and Model-Based Reinforcement Learning *Thomas J. Walsh, Sergiu Goschin, Michael L. Littman* SixthSense: Fast and Reliable Recognition of Dead Ends in MDPs *Andrey Kolobov, Mausam, Daniel S. Weld* On the Use of Prime Implicates in Conformant Planning *Son Thanh To, Tran Cao Son, Enrico Pontelli*	**Sentiment and Perspective** What Is an Opinion About? Exploring Political Standpoints Using Opinion Scoring Model *Bi Chen, Leilei Zhu, Daniel Kifer, Dongwon Lee* CAO: A Fully Automatic Emoticon Analysis System *Michal Ptaszynski, Jacek Maciejewski, Pawel Dybala, Rafal Rzepka, Kenji Araki* A Two-Dimensional Topic-Aspect Model for Discovering Multi-Faceted Topics *Michael Paul, Roxana Girju*
11:30 AM–12:30 PM	**Algorithm and Action Selection** Collaborative Expert Portfolio Management *David Stern, Ralf Herbrich, Thore Graepel, Horst Samulowitz, Luca Pulina, A. Tacchella* Learning Causal Models of Relational Domains *Marc Maier, Brian Taylor, Hüseyin Oktay, David Jensen* Finite-State Controllers Based on Mealy Machines for Centralized and Decentralized POMDPs *Christopher Amato, Blai Bonet, S. Zilberstein*	**Manifold Learning** Constrained Metric Learning via Distance Gap Maximization *Wei Liu, Xinmei Tian, Dacheng Tao, Jianzhuang Liu* Local and Global Regressive Mapping for Manifold Learning with Out-of-Sample Extrapolation *Yi Yang, Feiping Nie, Shiming Xiang, Yueting Zhuang, Wenhua Wang* Multilinear Maximum Distance Embedding via L1-norm Optimization *Yang Liu, Yan Liu, Keith C. C. Chan*	**Planning 1** Planning in Dynamic Environments: Extending HTNs with Nonlinear Continuous Effects *Matt Molineaux, Matthew Klenk, David W. Aha* Independent Additive Heuristics Reduce Search Multiplicatively *Teresa M. Breyer, Richard E. Korf* SAP Speaks PDDL *Jörg Hoffmann, Ingo Weber, Frank Michael Kraft*	**Natural Language Processing 1** Forest-Based Semantic Role Labeling *Hao Xiong, Haitao Mi, Yang Liu, Qun Liu* Extracting Ontological Selectional Preferences for Non-Pertainym Adjectives from the Google Corpus *John J. Tanner, Fernando Gomez* Bidirectional Integration of Pipeline Models *Xiaofeng Yu, Wai Lam*
1:50–2:50 PM	**Data Mining and Classification** *Nectar:* Constraint Programming for Data Mining and Machine Learning *Luc De Raedt, Tias Guns, Siegfried Nijssen* *Nectar:* Active Inference for Collective Classification *Mustafa Bilgic, Lise Getoor* *Physically Grounded AI:* Unsupervised Learning of Event Classes from Video *Muralikrishna Sridhar, Anthony G. Cohn, David C. Hogg*	**Learning and Belief Revision** Interactive Learning Using Manifold Geometry *Eric Eaton, Gary Holness, Daniel McFarlane* User-Specific Learning for Recognizing a Singer's Intended Pitch *Andrew Guillory, Sumit Basu, Dan Morris* A Belief Revision Framework for Revising Epistemic States with Partial Epistemic States *Jianbing Ma, Weiru Liu, Salem Benferhat*	**Planning 2** *Outstanding Paper:* A Novel Transition Based Encoding Scheme for Planning as Satisfiability *Ruoyun Huang, Yixin Chen, Weixiong Zhang* To Max or Not to Max: Online Learning for Speeding Up Optimal Planning *Carmel Domshlak, Erez Karpas, Shaul Markovitch* Probabilistic Plan Recognition Using Off-the-Shelf Classical Planners *Miquel Ramírez, Hector Geffner*	**Natural Language Processing 2** Automatic Attribution of Quoted Speech in Literary Narrative *David K. Elson, Kathleen R. McKeown* Kernelized Sorting for Natural Language Processing *Jagadeesh Jagarlamudi, Seth Juarez, Hal Daumé III* Clickthrough Log Analysis by Collaborative Ranking *Bin Cao, Dou Shen, Kuansan Wang, Qiang Yang*
3:00–4:00 PM	**Speech and Translation** *Nectar:* Panlingual Lexical Translation via Probabilistic Inference *Mausam, Stephen Soderland, Oren Etzioni* *Nectar:* Intelligently Aiding Human-Guided Correction of Speech Recognition *Keith Vertanen, Per Ola Kristensson* Design and Implementation of Two-level Synchronization for an Interactive Music Robot *Takuma Otsuka, Kazuhiro Nakadai, T. Takahashi, K. Komatani, T. Ogata, H.Okuno*	**Policies** High-Quality Policies for the Canadian Traveler's Problem *Patrick Eyerich, Thomas Keller, Malte Helmert* epsilon-First Policies for Budget-Limited Multi-Armed Bandits *Long Tran-Thanh, Archie Chapman, Enrique Munoz de Cote, Alex Rogers, Nicholas R. Jennings* Myopic Policies for Budgeted Optimization with Constrained Experiments *Javad Azami, X. Fern, A. Fern, E. Burrows, F. Chaplen, Y. Fan, H. Liu, J. Jiao, R. Schaller*	**Planning under Uncertainty** PUMA: Planning under Uncertainty with Macro-Actions *Ruijie He, Emma Brunskill, Nicholas Roy* Compressing POMDPs Using Locality Preserving Non-Negative Matrix Factorization *Georgios Theocharous, Sridhar Mahadevan* Structured Parameter Elicitation *Li Ling Ko, David Hsu, Wee Sun Lee, Sylvie C. W. Ong*	**Integrated Intelligence: Learning about the Environment** Instance-Based Online Learning of Deterministic Relational Action Models *Joseph Z. Xu, John E. Laird* Integrated Systems for Inducing Spatio-Temporal Process Models *Chunki Park, Will Bridewell, Pat Langley* An Integrated Systems Approach to Explanation-Based Conceptual Change *Scott E. Friedman, Kenneth D. Forbus*
4:20–5:20 PM	**AI and Bioinformatics** A Cross-Entropy Method that Optimizes Partially Decomposable Problems … *Siamak (Mohsen) Ravanbakhsh, Barnabás Póczos and Russell Greiner* A Fast Heuristic Search Algorithm for Finding the Longest Common Subsequence of Multiple Strings *Qingguo Wang, M. Pan, Y.Shang, D. Korkin* Predicting Structural and Functional Sites in Proteins … *Franco Mascia, Elisa Cilia, Mauro Brunato, Andrea Passerini*	**Nectar** Enhancing ASP by Functions: Decidable Classes and Implementation Techniques *Francesco Calimeri, Susanna Cozza, Giovambattista Ianni, Nicola Leone* Computationally Feasible Automated Mechanism Design: General Approach and Case Studies *Mingyu Guo, Vincent Conitzer* Comparing Position Auctions Computationally *David R. M. Thompson, Kevin Leyton-Brown*	**Activity Recognition** Using Closed Captions as Supervision for Video Activity Recognition *Sonal Gupta, Ray J. Mooney* Multi-Agent Plan Recognition: Formalization and Algorithms *Bikramjit Banerjee, Landon Kraemer, Jeremy Lyle* Recognizing Multi-Agent Activities from GPS Data *Adam Sadilek, Henry Kautz*	**Reasoning about Action** *Nectar:* Automatic Derivation of Finite-State Machines for Behavior Control *Blai Bonet, Héctor Palacios, Héctor Geffner* Competing Schedulers *Itai Ashlagi, Moshe Tennenholtz, Aviv Zohar* *Integrated Intelligence:* Learning Methods to Generate Good Plans: Integrating HTN Learning and Reinforcement Learning *Chad Hogg, Ugur Kuter, Héctor Muñoz-Avila*

Coffee breaks will be held at 10:00 – 10:20 AM and 4:00 – 4:20 PM. The lunch break will be held from 12:30 – 1:50 PM.

	ATLANTA E	ATLANTA F	ATLANTA G	ATLANTA H
9:00–10:00 AM				**IAAI: Knowledge-Based Systems III** Natural Language Aided Visual … *S. Pan, M. Zhou, K. Houck, P. Kissa* Gaudii … *C. Gonzalez-Morcillo, V. J. Martin-Ramirez, D. Vallejo, J. Castro-Sanchez, J. Albusac-Jimenez*
10:20–11:20 AM	**Voting** Bypassing Combinatorial Protections: Polynomial-Time Algorithms for Single-Peaked Electorates *Felix Brandt, Markus Brill, Edith Hemaspaandra, Lane A. Hemaspaandra* Coalitional Structure Generation in Skill Games *Yoram Bachrach, Reshef Meir, Kyomin Jung, Pushmeet Kohli* Fixing a Tournament *Virginia Vassilevska Williams*	**Physically Grounded AI: Human Behaviours** A Layered Approach to People Detection in 3D Range Data *Luciano Spinello, Kai O. Arras, Rudolph Triebel, Roland Siegwart* Activity and Gait Recognition with Time-Delay Embeddings *Jordan Frank, Shie Mannor, Doina Precup* Community-Guided Learning *Daniel Peebles, Hong Lu, Nicholas D. Lane, Tanzeem Choudhury, Andrew T. Campbell*	**AI and the Web: Knowledge Acquisition** Commonsense Knowledge Mining from the Web *Chi-Hsin Yu, Hsin-His Chen* Keyword Extraction and Headline Generation Using Novel Word Features *Songhua Xu, Shaohui Yang, Francis C. M. Lau* Sentiment Analysis with Global Topics and Local Dependency *Fangtao Li, Minlie Huang, Xiaoyan Zhu*	**IAAI-10 Invited Talk** Species of Mind *Vernor Vinge*
11:30 AM–12:30 PM	**Markets and Networks** Generalized Task Markets for Human and Machine Computation *Dafna Shahaf, Eric Horvitz* Discovering Long Range Properties of Social Networks with Multi-Valued Time-Inhomogeneous Models *Danny Wyatt, Tanzeem Choudhury, Jeff Bilmes* Trust Models and Con-Man Agents: From Mathematical to Empirical Analysis *Amirali Salehi-Abari, Tony White*	**Physically Grounded AI: Robot Motion** Online Learning of Uneven Terrain for Humanoid Bipedal Walking *Seung-Joon Yi, Byoung-Tak Zhang, Daniel D. Lee* Biped Walk Learning through Playback and Corrective Demonstration *Çetin Meriçli, Manuela Veloso* Error Aware Monocular Visual Odometry Using Vertical Line Pairs for Small Robots in Urban Areas *Ji Zhang, Dezhen Song*	**AI and the Web: Social Networks** Predicting the Importance of Newsfeed Posts and Social Network Friends *Tim Paek, Michael Gamon, Scott Counts, David Maxwell Chickering, Aman Dhesi* Extraction and Visualization of Implicit Social Relations on Social Networking Services *Meesun Song, Wonkyu Lee, Junghwan Kim* UserRec: A User Recommendation Framework in Social Tagging Systems *Tom Chao Zhou, Hao Ma, Michael R. Lyu, Irwin King*	**IAAI-10: Machine Learning II** AI-Based Software Defect Predictors: Applications and Benefits in a Case Study *(Deployed)* *Ayse Tosun, Ayse Bener, Resat Kale* A Machine Learning Approach to the Detection of Fetal Hypoxia during Labor and Delivery *Philip A. Warrick, Emily F. Hamilton, Robert E. Kearney, Doina Precup*
1:50–2:50 PM	**Equilibria** Intentions in Equilibrium *John Grant, Sarit Kraus, Michael Wooldridge* A Distributed Algorithm for Optimising over Pure Strategy Nash Equilibria *Archie C. Chapman, Alessandro Farinelli, Enrique Munoz de Cote, Alex Rogers, Nicholas R. Jennings* Beyond Equilibrium: Predicting Human Behavior in Normal Form Games *James R. Wright, Kevin Leyton-Brown*	**Physically Grounded AI: Behaviour Modelling** A Bayesian Nonparametric Approach to Modeling Mobility Patterns *Joshua Joseph, Finale Doshi-Velez, Nicholas Roy* A Low False Negative Filter for Detecting Rare Bird Species from Short Video Segments … *Dezhen Song, Yiliang Xu* The Boosting Effect of Exploratory Behaviors *Jivko Sinapov, Alexander Stoytchev*	**AI and the Web: Ontology Alignment and Querying** *Outstanding Paper:* How Incomplete Is Your Semantic Web Reasoner? … *Giorgos Stoilos, Bernardo Cuenca Grau, Ian Horrocks* A Probabilistic-Logical Framework for Ontology Matching *Mathias Niepert, Christian Meilicke, Heiner Stuckenschmidt* Towards an Intelligent Code Search Engine *Jinhan Kim, S. Lee, S.Hwang, S. Kim*	
3:00–4:00 PM	**Game Theory 1** Private and Third-Party Randomization in Risk-Sensitive Equilibrium Concepts *Mickey Brautbar, Michael Kearns, Umar Syed* Coalition Structure Generation Based on Distributed Constraint Optimization *Suguru Ueda, Atsushi Iwasaki, Makoto Yokoo, Marius Calin Silaghi, Katsutoshi Hirayama, Toshihiro Matsui* Algorithms for Finding Approximate Formations in Games *Patrick R. Jordan, Michael P. Wellman*	**Dealing with Complexity 1** Automated Program Debugging via Multiple Predicate Switching *Yongmei Liu, Bing Li* *Nectar:* Local Search in Histogram Construction *Felix Halim, Panagiotis Karras, Roland H. C. Yap* *Nectar:* Evolving Compiler Heuristics to Manage Communication and Contention *Matthew E. Taylor, K. Coons, B. Robatmili, B. Maher, D. Burger, K. McKinley*		
4:20–5:20 PM	**Game Theory 2** An Approximate Subgame-Perfect Equilibrium Computation Technique for Repeated Games *Andriy Burkov, Brahim Chaib-draa* A Temporal Proof System for General Game Playing *Michael Thielscher, Sebastian Voigt* Reasoning about Imperfect Information Games in the Epistemic Situation Calculus *Vaishak Belle, Gerhard Lakemeyer*	**Dealing with Complexity 2** Dominance Testing via Model Checking *Ganesh Ram Santhanam, Samik Basu, Vasant Honavar* Two-Player Game Structures for Generalized Planning and Agent Composition *Giuseppe De Giacomo, Paolo Felli, Fabio Patrizi, Sebastian Sardina* Representing Preferences among Sets *Gerhard Brewka, Miroslaw Truszczynski, Stefan Woltran*		

Coffee breaks will be held at 10:00 – 10:20 AM and 4:00 – 4:20 PM. The lunch break will be held from 12:30 – 1:50 PM.

Innovative Applications of Artificial Intelligence (IAAI)

All IAAI sessions will be held in Atlanta H, 7th Floor, except where noted.

Tuesday, July 13

8:30 – 9:00 AM
AAAI-10/IAAI-10 Opening Ceremony
Peachtree Ballroom, 8th Floor

9:00 – 10:00 AM
AAAI-10 Keynote Address

Intelligent Interaction with the Real World
Leslie Pack Kaelbling (Massachusetts Institute of Technology)
Peachtree Ballroom, 8th Floor

10:20 – 11:20 AM
Invited Talk: Robert S. Engelmore Memorial Award Lecture

Cancer: A Computational Disease that AI Can Cure
Jay M. Tenenbaum (CollabRx Inc.)

11:30 AM – 12:30 PM
Scheduling & Planning

Optimizing Limousine Service with AI *(Deployed)*
Andy Hon Wai Chun

Towards Applying Interactive POMDPs to Real-World Adversary Modeling
Brenda Ng, Carol Meyers, Kofi Boakye, John Nitao

1:50 – 2:50 PM
Health & Medicine

Estimation of Human Internal Temperature from Wearable Physiological Sensors
Mark. J. Buller, William J. Tharion, Reed W. Hoyt, Odest Chadwicke Jenkins

Ambulatory Energy Expenditure Estimation: A Machine Learning Approach
Junaith Ahemed Shahabdeen, Amit Baxi, Lama Nachman

3:00 – 4:00 PM
Knowledge-Based Systems I

Reinforcement Learning for Closed-Loop Propofol Anesthesia: A Human Volunteer Study
Brett L Moore, Periklis Panousis, Vivek Kulkarni, Larry D Pyeatt, Anthony G Doufas

Sentiment Extraction: Integrating Statistical Parsing, Semantic Analysis, and Common Sense Reasoning
Lokendra Shastri, Anju G. Parvathy, Abhishek Kumar, John Wesley, Rajesh Balakrishnan

4:20 – 5:50 PM
Agents

A Centralized Multi-Agent Negotiation Approach to Collaborative Air Traffic Resource Management Planning
Peter A. Jarvis, Shawn Wolfe, Francis Enomoto, Robert Nado, Maarten Sierhuis

A Testbed for Investigating Task Allocation Strategies between Air Traffic Controllers and Automated Agents *(Deployed)*
Nathan Schurr, Richard Good, Amy Alexander, Paul Picciano, Gabriel Ganberg, Michael Therrien, Bettina L. Beard, Jon Holbrook

Agent-Based Decision Support: A Case-Study on DSL Access Networks
Karsten Bsufka, Rainer Bye, Joël Chinnow, Stephan Schmidt, Leonid Batyuk

Wednesday, July 14

9:00 – 10:00 AM
Sensor Networks & Distributed AI

Fast, Accurate, and Practical Identity Inference Using TV Remote Controls
Mariano Phielipp, Magdiel Galan, Richard Lee, Branislav Kveton, Jeffrey Hightower

A Wiki with Multiagent Tracking, Modeling, and Coalition Formation
Nobel Khandaker, Leen-Kiat Soh

10:20 – 11:20 AM
Invited Talk

A New Paradigm of Geriatric Care Empowered by Applied AI
Majd Alwan (Center for Aging Services Technologies)

11:30 AM – 12:30 PM
Machine Learning I

Surveillance of Parimutuel Wagering Integrity Using Expert Systems and Machine Learning *(Deployed)*
Roy S. Freedman, Isidore Sobkowski

Predicting Falls of a Humanoid Robot through Machine Learning
Shivaram Kalyanakrishnan, Ambarish Goswami

1:50 – 2:50 PM
Knowledge-Based Systems II

Learning from Sensors and Past Experience in an Autonomous Oceanographic Probe
Albert Vilamala, Enric Plaza, Josep Lluis Arcos

Providing Decision Support for Cosmogenic Isotope Dating
Laura Rassbach, Elizabeth Bradley, Ken Anderson

3:00 – 4:00 PM
Virtual Humans

Design Privacy with Analogia Graph
Yang Cai, Joseph Laws, Nathaniel Bauernfeind

Practical Language Processing for Virtual Humans
Anton Leuski, David Traum

4:20 – 5:20 PM
Sketching

Sketch Worksheets: A Sketch-based Educational Software System
Panrong Yin, Kenneth D. Forbus, Jeffrey Usher, Brad Sageman, Benjamin D. Jee

A Sketch Recognition System for Recognizing Free-Hand Course of Action Diagrams
T. Hammond, D. Logsdon, B. Paulson, J. Johnston, J. Peschel, A. Wolin, and P. Taele

6:30 – 9:30 PM
AAAI-10 Poster Session Reception
Peachtree Ballroom, 8th Floor

Thursday, July 15

9:00 – 10:00 AM
Knowledge-Based Systems III

Natural Language Aided Visual Query Building for Complex Data Access
Shimei Pan, Michelle Zhou, Keith Houck, Peter Kissa

Gaudii: An Automated Graphic Design Expert System
C. Gonzalez-Morcillo, V. J. Martin-Ramirez, D. Vallejo, J. J. Castro-Sanchez, J. Albusac-Jimenez

10:20 – 11:20 AM
Invited Talk

Species of Mind
Vernor Vinge

11:30 AM – 12:30 PM
Machine Learning II

AI-Based Software Defect Predictors: Applications and Benefits in a Case Study *(Deployed)*
Ayse Tosun, Ayse Bener, Resat Kale

A Machine Learning Approach to the Detection of Fetal Hypoxia during Labor and Delivery
Philip A. Warrick, Emily F. Hamilton, Robert E. Kearney, Doina Precup

Poster Session

The poster session will be held Wednesday, July 14, in the Peachtree Ballroom, 6:30 – 9:30 PM. *(see map, p. 23)*

AAAI-10 Main Track Technical Papers

Constraints, Satisfiability, and Search

Transmission Network Expansion Planning with Simulation Optimization
Russell Bent, Alan Berscheid, G. Loren Toole

Propagating Conjunctions of ALLDIFFERENT Constraints
Christian Bessiere, George Katsirelos, Nina Narodytska, Claude-Guy Quimper, Toby Walsh

A Novel Transition Based Encoding Scheme for Planning as Satisfiability
Ruoyun Huang, Yixin Chen, Weixiong Zhang

Search Space Reduction Using Swamp Hierarchies
Nir Pochter, Aviv Zohar, Jeffrey S. Rosenschein, Ariel Felner

Coalition Structure Generation Based on Distributed Constraint Optimization
Suguru Ueda, Atsushi Iwasaki, Makoto Yokoo, Marius Calin Silaghi, Katsutoshi Hirayama, Toshihiro Matsui

Knowledge Representation and Reasoning

Decomposed Utility Functions and Graphical Models for Reasoning about Preferences
Ronen I. Brafman, Yagil Engel

A Lower Bound on the Size of Decomposable Negation Normal Form
Knot Pipatsrisawat, Adnan Darwiche

Machine Learning

The Genetic Algorithm as a General Diffusion Model for Social Networks
Mayank Lahiri, Manuel Cebrian

Gaussian Mixture Model with Local Consistency
Jialu Liu, Deng Cai, Xiaofei He

Discovering Long Range Properties of Social Networks with Multi-Valued Time-Inhomogeneous Models
Danny Wyatt, Tanzeem Choudhury, Jeff Bilmes

Multiagent Systems

A Distributed Algorithm for Optimising over Pure Strategy Nash Equilibria
Archie C. Chapman, Alessandro Farinelli, Enrique Munoz de Cote, Alex Rogers, Nicholas R. Jennings

Truth, Justice, and Cake Cutting
Yiling Chen, John K. Lai, David C. Parkes, Ariel D. Procaccia

Urban Security: Game-Theoretic Resource Allocation in Networked Physical Domains
Jason Tsai, Zhengyu Yin, Jun-young Kwak, David Kempe, Christopher Kiekintveld, Milind Tambe

Fixing a Tournament
Virginia Vassilevska Williams

Tolerable Manipulability in Dynamic Assignment without Money
James Zou, Sujit Gujar, David Parkes

Multidisciplinary Topics

A General Game Description Language for Incomplete Information Games
Michael Thielscher

Reasoning about Plans, Processes and Actions

To Max or Not to Max: Online Learning for Speeding Up Optimal Planning
Carmel Domshlak, Erez Karpas, Shaul Markovitch

An Analytic Characterization of Model Minimization in Factored Markov Decision Processes
Wenyuan Guo, Tze-Yun Leong

SixthSense: Fast and Reliable Recognition of Dead Ends in MDPs
Andrey Kolobov, Mausam, Daniel S. Weld

Symbolic Dynamic Programming for First-Order POMDPs
Scott Sanner, Kristian Kersting

Reasoning under Uncertainty

Simultaneous Elicitation of Preference Features and Utility
Craig Boutilier, Kevin Regan, Paolo Viappiani

Main Track Short Papers

Saving Redundant Messages in BnB-ADOPT
Patricia Gutierrez, Pedro Meseguer

An Optimization Variant of Multi-Robot Path Planning is Intractable
Pavel Surynek

Multi-Label Classification: Inconsistency and Class Balanced K-Nearest Neighbor
Hua Wang, Chris Ding, Heng Huang

Special Track on AI and Bioinformatics

Predicting Structural and Functional Sites in Proteins by Searching for Maximum-Weight Cliques
Franco Mascia, Elisa Cilia, Mauro Brunato, A. Passerini

A Fast Heuristic Search Algorithm for Finding the Longest Common Subsequence of Multiple Strings
Qingguo Wang, Mian Pan, Yi Shang, Dmitry Korkin

Special Track on AI and the Web

Toward an Architecture for Never-Ending Language Learning
Andrew Carlson, Justin Betteridge, Bryan Kisiel, Burr Settles, Estevam R. Hruschka Jr., Tom M. Mitchell

Optimal Strategies for Reviewing Search Results
Jeff Huang, Anna Kazeykina

Utilizing Context in Generative Bayesian Models for Linked Corpus
Saurabh Kataria, Prasenjit Mitra, Sumit Bhatia

A Probabilistic-Logical Framework for Ontology Matching
Mathias Niepert, Christian Meilicke, Heiner Stuckenschmidt

Extraction and Visualization of Implicit Social Relations on Social Networking Services
Meesun Song, Wonkyu Lee, Junghwan Kim

How Incomplete Is Your Semantic Web Reasoner?
Giorgos Stoilos, Bernardo Cuenca Grau, Ian Horrocks

Heterogeneous Transfer Learning for Image Classification
Yin Zhu, Sinno Jialin Pan, Yuqiang Chen, Gui-Rong Xue, Qiang Yang, Yong Yu

Special Track on Integrated Intelligence

An Integrated Systems Approach to Explanation-Based Conceptual Change
Scott E. Friedman, Kenneth D. Forbus

Supporting Wilderness Search and Rescue with Integrated Intelligence: Autonomy and Information at the Right Time and the Right Place
Lanny Lin, Michael Roscheck, Michael A. Goodrich, Bryan S. Morse

Integrated Systems for Inducing Spatio-Temporal Process Models
Chunki Park, Will Bridewell, Pat Langley

Instance-Based Online Learning of Deterministic Relational Action Models
Joseph Z. Xu, John E. Laird

EAAI-10 Posters

A Simulator for Teaching Robotics Programming Using the iRobot Create
Andrew Hettlinger, Matthew R. Boutell

Teaching Artificial Intelligence and Robotics via Games
Sven Koenig

AAAI-10 Student Abstracts

A Distributed Method for Evaluating Properties of a Robot Formation
Brent Beer, Ross Mead, Jerry Weinberg

Towards Multiagent Meta-Level Control
Shanjun Cheng, Anita Raja, Victor Lesser

Finding Semantic Inconsistencies in UMLS Using Answer Set Programming
Halit Erdogan, Olivier Bodenreider, Esra Erdem

Combining Human Reasoning and Machine Computation: Towards a Memetic Network Solution to Satisfiability
Daniel S. Farenzena, Luis C. Lamb, Ricardo M. Araujo

Interactive Categorization of Containers and Non-Containers by Unifying Categorizations Derived from Multiple Exploratory Behaviors
Shane Griffith, Alexander Stoytchev

A Trust Model for Supply Chain Management
Yasaman Haghpanah, Marie desJardins

Intelligent Time-Aware Query Translation for Text Sources
Amal Kaluarachchi, Aparna S. Varde, Jing Peng, Anna Feldman

Temporal Planning for Interacting Durative Actions with Continuous Effects
Serdar Kecici, Sanem Sariel Talay

Control Model Learning for Whole-Body Mobile Manipulation
Scott Kuindersma

Towards Interesting Patterns of Hard CSPs with Functional Constraints
Chendong Li

Integrating Transfer Learning in Synthetic Student
Nan Li, William W. Cohen, Kenneth R. Koedinger

Learning from Concept Drifting Data Streams with Unlabeled Data
Peipei Li, Xindong Wu, Xuegang Hu

A Phrase-Based Method for Hierarchical Clustering of Web Snippets
Zhao Li, Xindong Wu

Distributed Auction-Based Initialization of Mobile Robot Formations
Rob Long, Ross Mead, Jerry B. Weinberg

Materializing Inferred and Uncertain Knowledge in RDF Datasets
James P. McGlothlin, Latifur Khan

Relational Reinforcement Learning in Infinite Mario
Shiwali Mohan, John E. Laird

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Michelle Leonhardt

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James MacGlashan

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AAAI-10 Poker Competition Posters

The 5th Annual Computer Poker Competition
Nolan Bard

Hyperborean: An Equilibrium Approach to Computer Poker Agents
Michael Johanson, Nolan Bard, Michael Bowling, Neil Burch, Josh Davidson, Richard Gibson, John Hawkin, Rob Holte, Boyan Marinov, Dustin Morrill, Jonathan Schaeffer, Nathan Sturtevant, Duane Szafron, Martha White

Automated Abstraction and Custom Equilibrium-Finding Algorithms for Imperfect-Information Games
Sam Ganzfried, Andrew Gilpin, Tuomas Sandholm

A New Algorithm for Opponent Exploitation in Imperfect-Information Games
Sam Ganzfried, Tuomas Sandholm

Robotics Program

Nineteenth Annual AAAI Robotics Exhibition and Workshop

Monday – Thursday, July 12 – 15, Vinings Room, Sixth Floor

The Nineteenth Edition of Robotics Program at AAAI features the long-standing Robotics Exhibitions as well as demonstration and challenges in emerging areas of robotics research. The Robotics Program has a long tradition of demonstrating innovating research in robotics at the intersection with artificial intelligence. This year, the AAAI-10 Robotics Program will feature a workshop to present current results and discuss future directions, demonstrations for intelligent robotics challenge problems, and an open robotics exhibition.

Robot Workshop: Enabling Intelligence through Middleware

Monday, July 12, Vinings 1, Sixth Floor

The theme of the workshop aims to cultivate challenge experiments to advance specific problems in robotics research and education. The workshop focuses on how to leverage robotics knowledge and research in other communities through the use of standardized middleware. Very few existing robotics development architectures are used outside of the group developing them. In addition, algorithms and approaches developed in one architecture are rarely ported to another, creating a barrier to reusing good solutions and hampering the ability to validate results in more than one environment. The workshop features a panel discussion led by prominent architecture research groups. The goal is to create a roadmap to common environments and tools. The workshop will also feature presentations by exhibitors in challenge areas that highlight current research.

Learning by Demonstration Challenge

The second annual exhibit and challenge on robot Learning by Demonstration (LbD) brings together research and commercial groups to demonstrate complete platforms performing LbD tasks. The long-term aim is to define increasingly challenging experiments for future LbD events and greater scientific understanding of the area. Ideally, physically embodied robots demonstrate learning a task or skill from a human teacher.

Small Scale Manipulation Challenge: Robotic Chess

The ICRA-2010 and AAAI-2010 Small-Scale Manipulation Challenge is designed to highlight advances in embodied intelligence using smaller than human size robots. Robotic chess requires the integration of sensing, planning and actuation and provides an opportunity for performance on a common, well-defined task.

Robotics Education Track

This venue offers an accessible and flexible opportunity for undergraduate, early graduate, or pre-college student teams to design, implement, and demonstrate an autonomous robotic system. The tasks involved can span physically-embodied AI: exploration, interaction, and learning within an unknown environment. In the long run, the goal is to motivate hands-on AI robotics investigation both for its own sake and in service to other academic disciplines and educational goals.

The Robot Exhibition

Robotic exhibits complement workshop discussions with actual demonstrations of the state of the art in all areas of robotics research, education, and commercial development. Exhibits will include actual robots, interactive demonstrations, videos and posters. Technical prizes and blue ribbons will be awarded to exhibits in a number of categories.

Robot Exhibition Teams

Bard College (The IMP)
Brown University Robot Team
Bryn Mawr College
Carnegie Mellon University (Tekkotsu Lab)
City University of New York (MetroBotics)
Colby College
Duke University
Drexel University
Harvey Mudd College (HMC)
Intel Labs/University of Washington
Road Narrows LLC and Southern Illinois University Edwardsville (Rabid Prototypers)
Rutgers University (Fine Young Padawans)
Rose-Hulman Institute of Technology (iRobot Create Simulator)
University of Alabama (UA Chess Bot)
University of Pennsylvania
Virgina Institute of Technology

Robot Program Organizing Committee

Event Cochairs
Andrea Thomaz (Georgia Tech) and Monica Anderson (University of Alabama)

Workshop Chair
Ayanna Howard (Georgia Tech)

Small Scale Mobile Manipulation: Robotic Chess Chair
Dave Touretzky (Carnegie Mellon University)

Learning by Demonstration Chair
Sonia Chernova (MIT Media Lab)

Mobile Manipulation Cochairs
Matei Ciocarlie (Willow Garage) and Radu Rusu (Willow Garage)

Student Robotics Challenge Cochairs
Zach Dodds (Harvey Mudd College)

Competitions

AI Video Competition Awards

Monday, July 12, 7:00 – 8:00 PM, Peachtree Ballroom F

The Fourth AI Video Competition (www.aivideo.org) Awards Ceremony will be held immediately after the opening reception. Come and see exciting videos about AI research and applications. The winners will be presented with a trophy named a "Shakey" — which honors SRI's pioneering robot.

The objective of this competition is to communicate to the world the fun of pursuing research in AI, and illustrate the impact of some of our applications. Submitters were asked to create narrated videos of 1-5 minutes in length. The submissions were reviewed by an international program committee, led by cochairs Kenneth Stanley (University of Central Florida), Arnav Jhala (University of California, Santa Cruz), and Chad Jenkins (Brown University). Awards will be presented in the following categories: Best Video, Best Student Video,

and Most Informative Video. AAAI gratefully acknowledges the generous contributions of Google, Yahoo! Research, and Microsoft Research for their sponsorship.

AAAI Fifth Annual General Game Playing Competition

Monday – Tuesday, July 12 – 13, Roswell II, Eighth Floor

This year's AAAI competition is designed to test the abilities of general game players by comparing their performance on a variety of previously unseen games. The competition will consist of two phases. On Monday, July 12, players will participate in preliminary rounds. On Tuesday, July 13, the top four finishers from the preliminary rounds will participate in semifinal and final rounds to determine an overall winner. (Note that, unlike competitions in previous years, there was no competition phase prior to the conference.) See games.stanford.edu for details. AAAI wishes to acknowledge the efforts of organizers Evan Cox and Michael Geneseereth, which make this competition possible.

Computer Poker Competition

Tuesday, July 13, Roswell I, Eighth Floor

For the Fifth Annual AAAI Computer Poker Competition teams will develop programs for playing heads-up Texas Hold-Em, both limit and no-limit, and 3-player ring limit Texas Hold'em. Programs will be judged based upon their robustness (ability to beat any opponent head-to-head) and/or their ability to learn (to exploit weaker opponents for more money). The winner of a competition will be determined by matches between bots that were submitted to that specific competition. If resources allow, unofficial results will also include matches between all pairs of bots in a division. At AAAI, the results, highlighted hands, and posters describing the bots will be presented. Visitors will have an opportunity to play against some of the submitted poker programs. AAAI thanks Poker Competition organizer Nolan Bard and David Parkes, who serves as the impartial "arbiter" for the competition, for all their efforts in making this event possible.

Exhibit Program

Exhibit Program

Tuesday – Thursday, July 13 – 15
Atlanta Ballroom Foyer, Seventh Floor

Exhibit Hours

Tuesday, July 13 9:00 AM – 5:00 PM
Wednesday, July 14 9:00 AM – 5:00 PM
Thursday, July 15 9:00 AM – 12:00 PM

Exhibitors

AAAI Press

445 Burgess Drive
Menlo Park, CA 94025-3442
Tel: 650-328-3123
Fax: 650-321-4457
Email: info10@aaai.org
www.aaai.org/Press/press.php

Cambridge University Press

32 Avenue of the Americas
New York, NY
212-924-3900
www.cambridge.org/us/

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iRobot

8 Crosby Drive
Bedford, MA 01730
781-430-3000
www.irobot.com/gi/research/

The iRobot Research Group conducts basic and applied research in robotics, ranging from perception and manipulation to mobility, navigation, and mapping. We work with ground robots and underwater robots, as well as unmanned aerial vehicles. We are always looking for partners to pursue externally-funded R&D opportunities. Stop by our exhibit table to learn more about the iRobot Research group and to enter a drawing for iRobot Create robots!

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Morgan & Claypool publishes the *Synthesis Lectures on Artificial Intelligence and Machine Learning* edited by Ron Brachman and Tom Dietterich. Synthesis lectures are 50–150 page revisable digital documents presenting key topics written by prominent contributors for an audience of students, researchers and developers. Synthesis lectures are available by institutional online subscription to the Synthesis Digital Library of Engineering and Computer Science and for individual digital and print purchase. Recently published: *Data Integration: The Relational Logic Approach* by Michael Genesereth and *Algorithms for Reinforcement Learning* by Csaba Szepesvari.

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Cambridge, MA 02142
mitpress.mit.edu

The MIT Press publishes books and journals dealing with all facets of artificial intelligence, robotics and their related disciplines. Please come by our table to browse our newest publications and receive a 30% discount.

Institute for Computational Sustainability

5136 Upson Hall
Ithaca, NY 14853-7501

The Institute for Computational Sustainability (ICS), founded in 2008 with support from an Expeditions in Computing grant from the National Science Foundation, advances research in the emerging field of Computational Sustainability. The vision of the institute is that computer scientists can and should play a key role in increasing the efficiency and effectiveness in the way we manage and allocate our natural resources, while enriching and transforming Computer Science and related fields. The institute is a joint venture involving scientists from Cornell University, Bowdoin College, the Conservation Fund, Howard University, Oregon State University, and the Pacific Northwest National Laboratory.

General Information

ADA Devices

The staff at Westin Peachtree Plaza is committed to ensuring that they meet and exceed all of the requirements for the Americans with Disabilities Act. The staff is trained to accommodate guests with special needs.

Admission

Each conference attendee will receive a name badge upon registration. This badge is required for admittance to the technical, tutorial, IAAI, EAAI, and workshop programs. Tutorial and Workshop attendees must present their attendance tickets for admittance to the rooms. The Westin offers a 100% smoke-free environment. Smoking is not permitted in the hotel.

Banking

There is an ATM machine in the Westin Peachtree Plaza next to the gift shop on the fifth level. A Bank of America is located across the street in the Peachtree Center. The ATM machine is available 24 hours. The bank is open 9–4, Monday – Friday; closed Saturday and Sunday.

Business Center/Shipping

The Westin Peachtree Plaza's Business Center is located on the fifth floor and provides services such as photocopying, facsimile, secretarial service, pager and cell phone rentals, shipping, computer use and rentals and office supplies. Open 24 hours; Westin guests may access with room key. Staffed hours: Monday – Friday, 7:30 AM – 4:00 PM.

Career Information

A bulletin board for job opportunities in the artificial intelligence industry will be made available in the registration area. Attendees are welcome to post job descriptions of openings at their company or institution.

Housing

For information regarding hotel reservations, please contact the hotel directly. For student housing, please contact Hilary Miskowski at the Georgia Institute of Technology at 404-894-2469.

Internet Access

AAAI-10 has arranged for wireless Internet access in the Westin Peachtree Plaza meeting spaces. Wireless Internet access is available in the Westin Peachtree Plaza guest rooms for a discounted rate of $7.95 per 24-hour period. Registration and billing can be setup via computer.

List of Attendees

A list of preregistered attendees of the conference will be available for review at the AAAI Desk in the registration area. Attendee lists will not be distributed.

Parking

Covered parking is available at the Westin for $19.00 per day. An additional charge is incurred for valet parking, which includes in/out privileges. The fee for a lost ticket is $26.

Printed Materials

Display tables for the distribution of promotional and informational materials of interest to conference attendees will be located in the registration area.

Proceedings CDs

Each technical registrant will receive a ticket with the registration materials for one copy of the conference CD. Tickets can be redeemed in the onsite registration area in the Overlook, located on the sixth floor of the Westin during registration hours. All tickets must be redeemed onsite by Thursday, July 15 at 11:00 AM. AAAI cannot mail CDs to registrants after the conference.

Hotel Restaurants

A flyer containing a listing and map of other local restaurants is included in the registration bags.

Starbucks® Coffee Bar, Lobby

Starbucks offers a variety of coffee and sells it along with fresh, rich-brewed, Italian style espresso beverages and a variety of pastries and confections.
Daily, 6:00 AM – 6:00 PM

The Café, Lobby

The Café serves a Southern-style buffet breakfast including eggs made to order, homemade breakfast cereals, fresh pastries, Belgian waffles and fruit. A la carte items also are available.
Monday – Friday, 6:30 AM – 10:30 AM
Saturday – Sunday, 7:00 AM – 12:00 PM

The Lobby Bar

The Lobby Bar is the place to catch up with friends and colleagues, have a light bite or wind up an evening. Light fare available.
Monday – Friday, 4:00 PM – 12:00 AM
Saturday, 2:00 PM – 12:00 AM
Sunday, 2:00 PM – 11:30 PM

Sun Dial Restaurant Bar and View

View Atlanta's breathtaking skyline from a glass-walled dining room that slowly revolves through a full 360 degrees 73 stories above the street.
Lunch: 11:30 AM – 2:30 PM;
Brunch: Sunday, 11:30 AM – 2:30 PM
Dinner: Sunday – Thursday, 6:00 – 10:00 PM; Friday, 6:00 – 11:00 PM; Saturday, 5:30 – 11:00 PM
The View: 10:00 AM – 11:00 PM

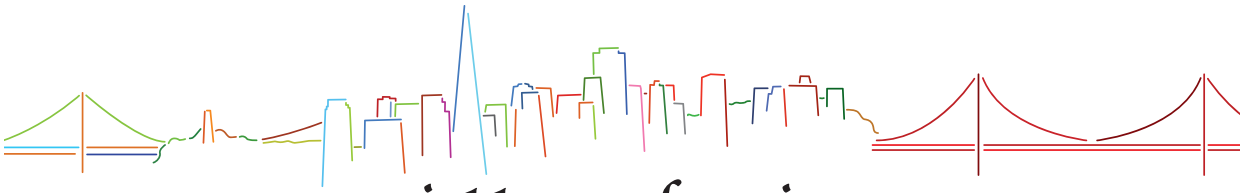
Airport Transportation

Taxi

Taxis are available for pick-up outside the main lobby of the Westin Peachtree Plaza. A ride from the Westin Peachtree Plaza to the Hartsfield-Jackson Atlanta International Airport takes approximately 30 minutes and costs between $25-30.

Shared-Ride Shuttle

Link Shuttle – (404) 564-0607 or (404) 524-3400. Cost is $16.50 per person one way, or $29 per person round trip
www.theatlantalink.com/



aaai-11 – san francisco

august 7–11 – www.aaai.org / aaai11

City Transportation

The Metropolitan Transit Authority (MARTA) operates Atlanta's local public transportation system. The Westin is located on the MARTA Line at Peachtree Center Station. For information on how to ride MARTA to and from the airport, please see www.itsmarta.com/airport.aspx. General information is also available about how to use MARTA throughout the city at www.itsmarta.com.

Volunteer Station

The volunteer station will be located in the onsite registration area. All volunteers are required to sign in prior to their shift, and sign out when they finish.

Workshop Technical Reports and Working Notes

Workshop participants will receive ticket in their registration envelopes, which can be redeemed for a copy of a CD containing the notes for their workshop. In cases where the workshop produced a technical report, participants will receive a CD containing all the technical reports for the entire AAAI-10 workshop program. For attendees at a workshop with working notes only (W4, W5, and W8), a CD will be provided with only the notes for the individual workshop. Tickets should be redeemed in the individual workshop rooms.

Disclaimer

In offering the Westin Peachtree Plaza, Georgia Institute of Technology, Freeman, Hartsfield-Jackson Atlanta International Airport, and all other service providers (hereinafter referred to as "Supplier(s)" for the AAAI Conference on Artificial Intelligence and the Innovative Applications Conference), AAAI acts only in the capacity of agent for the Suppliers that are the providers of the service. Because AAAI has no control over the personnel, equipment or operations of providers of accommodations or other services included as part of the AAAI-10/IAAI-10 program, AAAI assumes no responsibility for and will not be liable for any personal delay, inconveniences or other damage suffered by conference participants which may arise by reason of (1) any wrongful or negligent acts or omissions on the part of any Supplier or its employees, (2) any defect in or failure of any vehicle, equipment or instrumentality owned, operated or otherwise used by any Supplier, or (3) any wrongful or negligent acts or omissions on the part of any other party not under the control, direct or otherwise, of AAAI.

Registration

Conference registration is located in The Overlook on the sixth floor of the Westin Peachtree Plaza, beginning Sunday, July 11. Registration hours are:

Sunday, July 11	7:30 AM – 5:00 PM
Monday, July 12	7:30 AM – 5:00 PM
Tuesday, July 13	8:00 AM – 5:00 PM
Wednesday, July 14	8:30 AM – 5:00 PM
Thursday, July 15	8:30 AM – 12:00 PM

Only checks drawn on U.S. banks, U.S. currency, VISA, MasterCard, American Express, and traveler's checks will be accepted.

Registration Fees

All fees quoted are in US dollars

The AAAI-10/IAAI-10 technical program registration includes admission to all technical paper and poster sessions, invited talks, EAAI-10, exhibits, demos, and competitions, the opening reception, and a copy of the AAAI-10/IAAI-10 conference proceedings on CD (the hardcopy proceedings is available at additional cost). Students must present proof of full-time student status to qualify for the student rate. Onsite technical program fees are as follows:

Technical Registration Fees

Regular Member:	$820	Regular Nonmember:	$985
Student Member:	$320	Student Nonmember:	$420

AAAI Platinum Fees

(Includes one year new or renewal membership in AAAI)

Regular US/Canada:	$945	Regular International:	$965
Student US/Canada:	$375	Student International:	$395

Symposium on Educational Advances in Artificial Intelligence (EAAI-10)

The AAAI-10/IAAI-10 technical program registration includes participation in EAAI-10 for invited participants and other interested individuals. Although there is no additional cost for this event, registration is required. (Registration for EAAI-10 only is not available).

Tutorial Forum

Includes admittance to up to four consecutive tutorials. In addition to the fee below, all tutorial participants must register for the AAAI-10/IAAI-10 technical program.

Regular: $160 Student: $50

Workshop Program

Includes admittance to one workshop and the accompanying technical report.

Workshop with technical program
Regular: $180 Student: $160

Workshop Only (no technical program)
Regular: $325 Student: $210

Opening Reception (Monday, July 12)

Adult Guest: $50.00 Child: $25.00

Poster Session Reception (Wednesday, July 14)

Adult Guest: $50.00 Child $25.00

Proceedings in Hard Copy

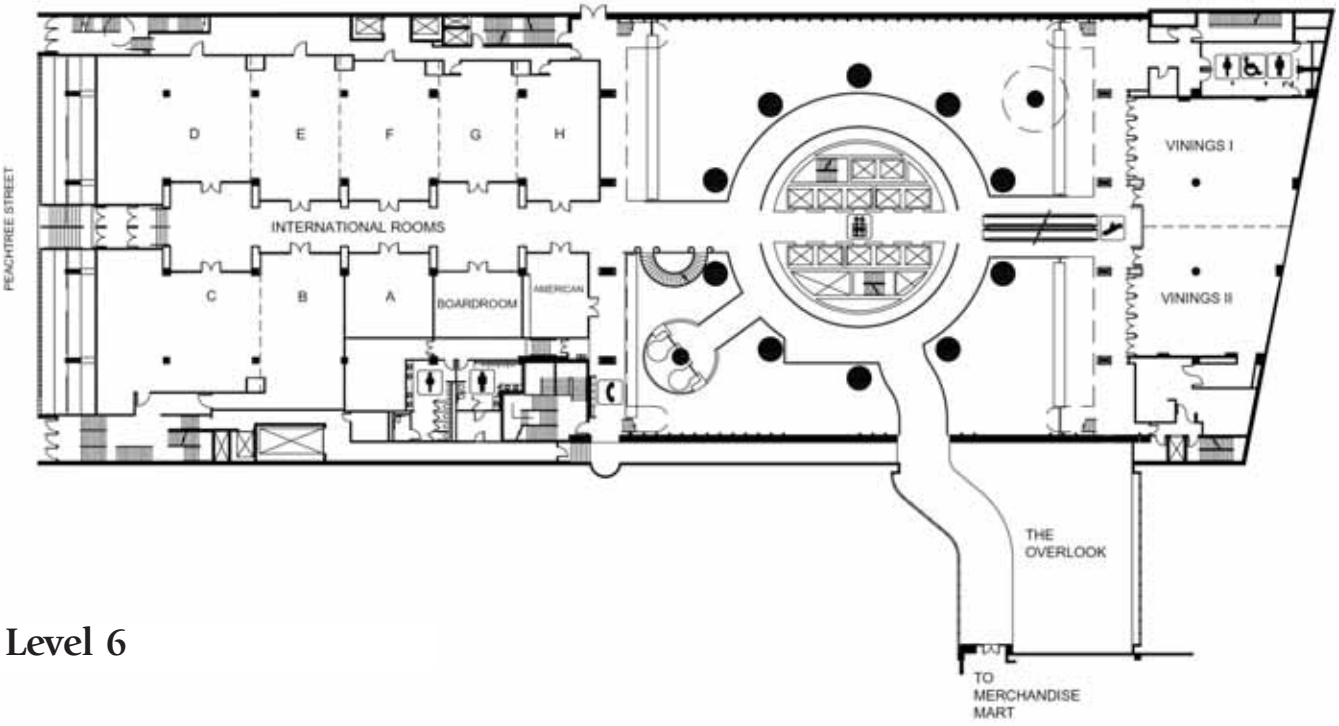
Copies of the hardcopy proceedings are available for purchase in onsite registration, and will be mailed after the conference (late summer). The calculated shipping cost is approximate, and will be recalculated at the time of shipment. If different, you will be notified before shipment.

Special Conference Rate: $95.00 (normally $250.00)

Workshop Technical Report CD

A CD containing all of the workshops that produced a AAAI Technical Report is available for purchase in onsite registration. Includes Workshops W2, W3, W6, W7, W10, W11, W12, and W13.

Workshop Technical Report CD: $25.00



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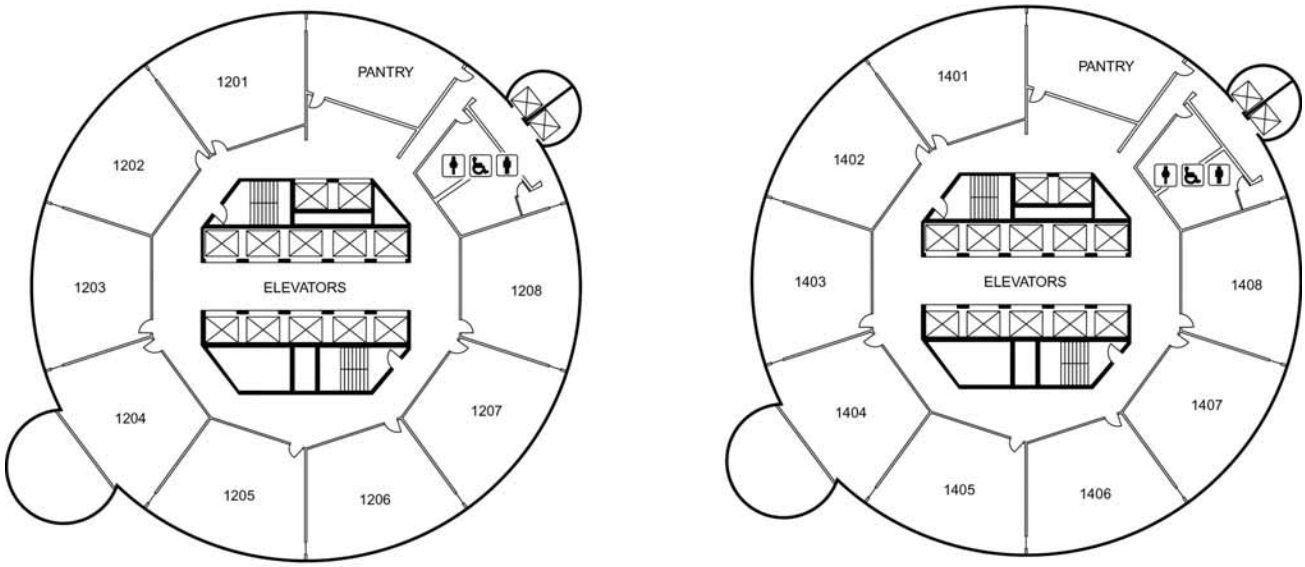

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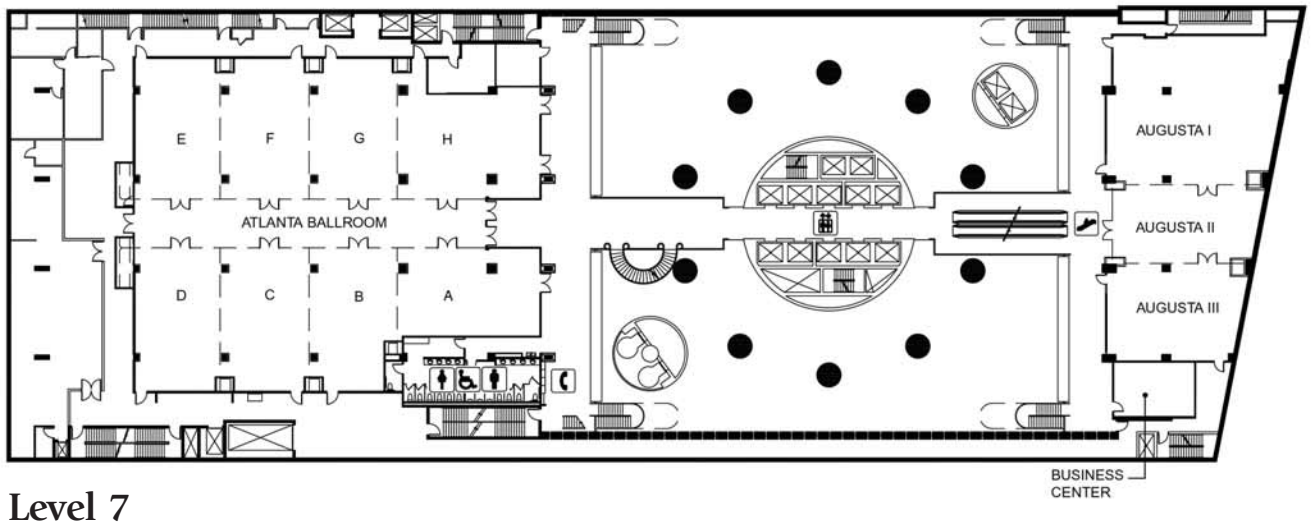

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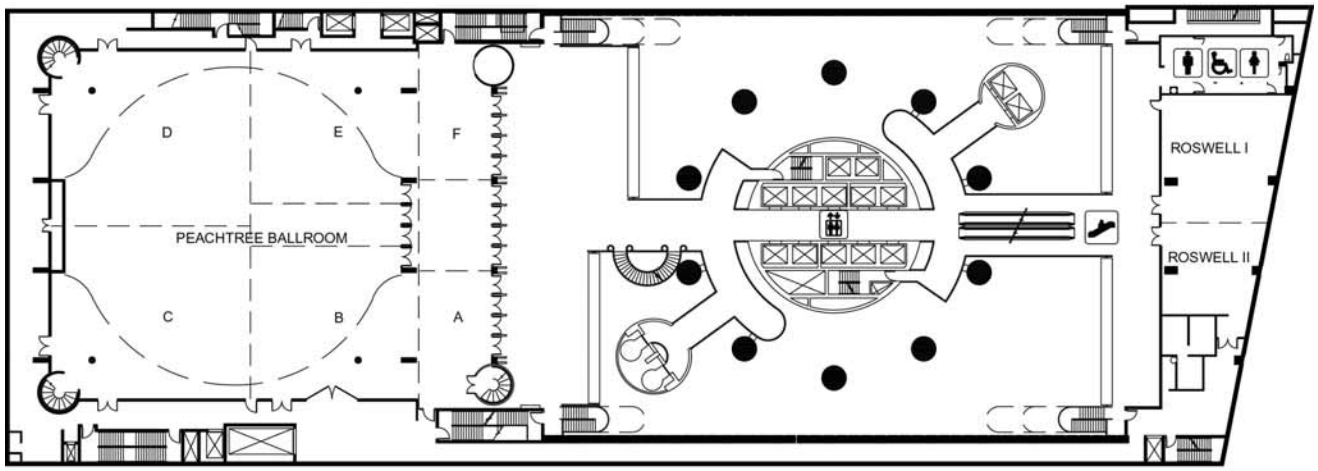

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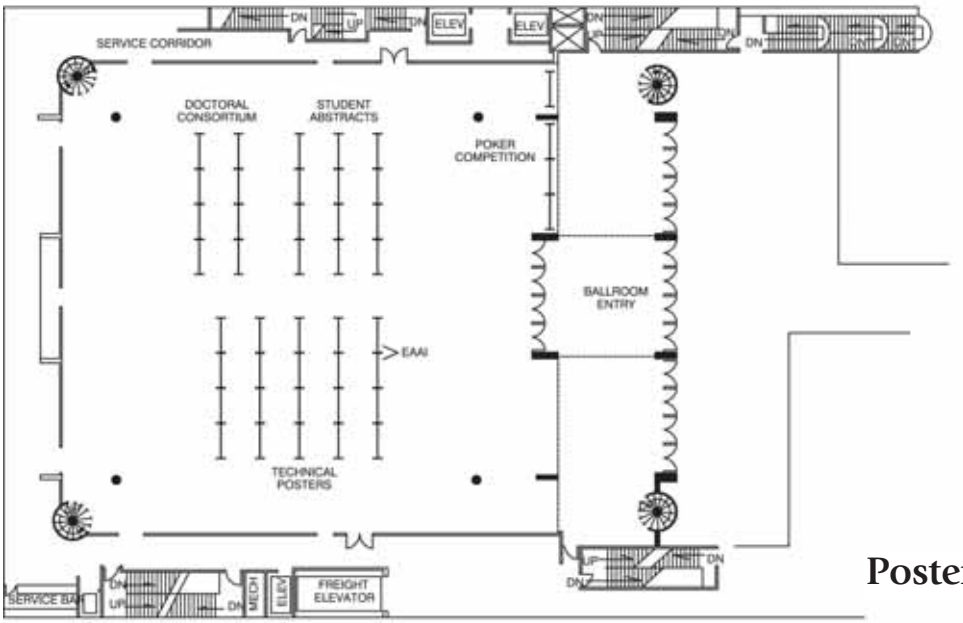

Poster Session

Proceedings of the Twenty-Fourth AAAI Conference on Artificial Intelligence

July, 2010
Atlanta, Georgia USA

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