Welcome to IJCAI-01

IJCAI-01, the Seventeenth International Joint Conference on Artificial Intelligence, is sponsored by the International Joint Conferences on Artificial Intelligence, Inc. (IJCAI) and the American Association for Artificial Intelligence (AAAI).

IJCAI sponsors biennial conferences on artificial intelligence, which are the main forums for presenting AI research results to the international AI community. Previous conference sites were Washington D.C., USA (1969), London, England (1971), Stanford, California, USA (1973), Tbilisi, Georgia, USSR (1975), Cambridge, Massachusetts, USA (1977), Tokyo, Japan (1979), Vancouver, British Columbia, Canada (1981), Karlsruhe, Germany (1983), Los Angeles, California, USA (1985), Milan, Italy (1987), Detroit, Michigan, USA (1989), Sydney, Australia (1991), Chambéry, Savoie, France (1993), Montréal, Québec, Canada (1995), Nagoya, Japan (1997), and Stockholm, Sweden (1999). IJCAI-03 will be held in Acapulco, Mexico in 2003.

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- AT&T Labs – Research
- The Boeing Company
- Microsoft Corporation
- NASA Ames Research Center
- NEC Research
- SemanticEdge
- SRI International

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The IJCAI Award for Research Excellence and the Computers and Thought Award are made by the IJCAI Board of Trustees, upon recommendation by the IJCAI Awards Selection Committee, which consists of:

- Michael Georgeff (San Francisco, USA)
- Henry Kautz (Seattle, USA)
- C. Raymond Perrault (Menlo Park, USA, Chair)
- J. Ross Quinlan (Sydney, Australia)
- Erik Sandewall (Linköping, Sweden)

The IJCAI Awards Selection Committee receives advice from members of the IJCAI Awards Review Committee, who comment on the accuracy of the nomination material and provide additional information about the nominees. The IJCAI Awards Review Committee is the union of the former Trustees of IJCAI, the IJCAI-01 Advisory Committee, the Program Chairs of the last three IJCAI conferences, and the past recipients of the IJCAI Award for Research Excellence and the IJCAI Distinguished Service Award, with nominees excluded.

**IJCAI Award for Research Excellence**

The IJCAI Award for Research Excellence is given at the IJCAI conference to a scientist who has carried out a program of research of consistently high quality, yielding several substantial results. Past recipients of this award are John McCarthy (1985), Allen Newell (1989), Marvin Minsky (1991), Raymond Reiter (1993), Herbert Simon (1995), Leslie Kaelbling (1997), and Judea Pearl (1999).

The winner of the 2001 IJCAI Award for Research Excellence is Donald Michie, Professor Emeritus of Machine Intelligence at the University of Edinburgh, Edinburgh, Scotland. Professor Michie is recognized for his contributions to Machine Learning, Robotics, and Knowledge-Based Systems. He will deliver a lecture from 5:45-6:45pm in Ballroom 6 B/C, sixth level.

**IJCAI Computers and Thought Award**

The Computers and Thought Award is presented at IJCAI conferences to outstanding young scientists in artificial intelligence. The award was established with royalties received from the book “Computers and Thought”, edited by Edward Feigenbaum and Julian Feldman; it is currently supported by income from IJCAI funds.


**Distinguished Paper Award**

The IJCAI-01 Distinguished Paper Award will be given to Thomas Eiter and Thomas Lukasiewicz for their paper entitled “Complexity Results for Structure-Based Causality”.

This paper analyzes the computational complexity of causal relationships in Pearl's structural models, where it focuses on causality between variables, event causality, and probabilistic causality. In particular, it analyzes the complexity of the sophisticated notions of weak and actual causality by Halpern and Pearl. In the course of this, it also proves an open conjecture by Halpern and Pearl, and establishes other semantic results. To the authors' knowledge, no complexity aspects of causal relationships have been considered so far, and their results shed light on this issue.

The authors will present their paper on Tuesday, August 7 from 5:00 – 5:30 PM in Meeting Room 606, sixth level.

**The Donald E. Walker Distinguished Service Award**

The IJCAI Distinguished Service Award was established in 1979 by the IJCAI Trustees to honor senior scientists in AI for contributions and service to the field during their careers. Past recipients have been Bernard Meltzer (1979), Arthur Samuel (1983), Donald Walker (1989), Woodrow Bledsoe (1991), Daniel G. Bobrow (1993) and Wolfgang Bibel (1999).

In 1993, the IJCAI Distinguished Service Award was renamed the Donald E. Walker Distinguished Service Award in memory of the late Donald E. Walker, who shaped the IJCAI organization as its long-time Secretary-Treasurer.

At IJCAI-01, the Donald E. Walker Distinguished Service Award will be given to Barbara Grosz, Gordon McKay Professor for Computer Science at Harvard University, Cambridge, USA. As a pioneering researcher in discourse and collaboration in natural language, Professor Grosz is recognized for her outstanding service to the international AI community as President of AAAI (1993-95) and as Chair of IJCAI (1989-1991), and for her contribution to enhancing the role of women in science. The award will be given during the opening ceremony, Monday, August 6, 5:00 pm in Ballroom 6 B/C, sixth level.
The IJCAI-01 Conference is composed of various complementary programs:
- the Technical Program, August 7–10, including technical paper presentations by top scientists in the field, invited speakers and award winners.
- the Tutorial Program, August 5–6
- the Workshop Program, August 4–6
- the Exhibition, including the AAAI Robot Competition and Exhibition and National 2001 Botball Tournament (2 days), August 7–9

**COLLOCATED EVENTS**
- the Thirteenth Conference on Innovative Applications of Artificial Intelligence, IAAI-01, August 7–9, Meeting Room 602, Washington State Convention & Trade Center
- AAAI/SIGART Doctoral Consortium, August 5-6, West Ballroom A, Sheraton Seattle Hotel
- RoboCup 2001 will be held in Exhibit Hall 4A next to the IJCAI-01 Exhibition, August 4 – 10, Washington State Convention & Trade Center
- RoboCup 2001 Symposium, August 7-8, Ballroom 6A, Washington State Convention & Trade Center
- the Seventeenth Conference on Uncertainty in Artificial Intelligence (UAI 2001), August 2 – 5, University of Washington

## CONFERENCE AT A GLANCE

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### Workshop Program (By Invitation Only)

#### By Invitation Only

The workshops will take place Saturday, August 4 – Monday, August 6. They are arranged in nine tracks centered around broad research topics and problem domains. Participation is limited to those determined by the workshop organizers prior to the conference. Workshops will be held in the Washington State Convention & Trade Center and the Sheraton Seattle Hotel. *Workshop Chair: Peter van Beek*

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| **CON-1:** Modeling and Solving Problems with Constraints  
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| **KRR-3:** Nonmonotonic Reasoning, Action and Change  
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| **PRO-1** continued: Reasoning with Uncertainty in Robotics  
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Allesandro Cimatti, Hector Geffner, Enrico Giunchiglia and Jussi Rintanen  
Meeting Room 619, Sixth Level, Washington State Convention & Trade Center |
| **TASK-3:** AI and Manufacturing  
Daniel M. Gaines  
Meeting Room 618, Sixth Level, Washington State Convention & Trade Center | **TASK-2:** Configuration  
Timo Soininen  
Meeting Room 620, Sixth Level, Washington State Convention & Trade Center |
| **TASK-4:** Knowledge and Reasoning in Practical Dialogue Systems  
Kristiina Jokinen, Lars Ahrenberg, Jan Alexandersson and Arne Jönsson  
Meeting Room 619, Sixth Level, Washington State Convention & Trade Center | **OTTO-1:** Stochastic Search Algorithms  
Holger H. Hoos and Thomas G. Stützle  
Douglas Room, Second Floor, Sheraton Seattle Hotel |
| **WEB-1:** E-Business and the Intelligent Web  
Alun Preece and Dan O’Leary  
Meeting Room 620, Sixth Level, Washington State Convention & Trade Center | **OTTO-3:**: Effective Interactive AI Resources  
Russell Greiner  
Meeting Room 615, Sixth Level, Washington State Convention & Trade Center |
The IJCAI-01 Tutorial Program features 20 four-hour tutorials, each covering a concentrated technical topic of current or emerging interest. Tutorials will be presented by experienced researchers and practitioners expert in the corresponding subject area. All tutorials will be held on the sixth level of the Washington State Convention & Trade Center.

**Tutorial Chair:** Michael Wellman

### AAAI/SIGART Doctoral Consortium

The sixth AAAI/SIGART Doctoral Consortium will be held Sunday and Monday, August 5-6, from 8:30 AM – 6:00 PM in West Ballroom A of the Sheraton Seattle Hotel. The Doctoral Consortium provides an opportunity for a group of PhD students to discuss and explore their research interests and career objectives in an interdisciplinary workshop together with a panel of established researchers.

AAAI and ACM/SIGART gratefully acknowledge grants from Microsoft Research and the National Science Foundation, Knowledge and Cognitive Systems Program, which partially support student travel to the event.

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Conference Program Highlights

IJCAI-01 Official Opening Ceremony and Reception

The Opening Ceremony will start at 5:00 PM, Monday, August 6 in Ballroom 6 B/C, followed by a reception at the Museum of Flight from 6:30 - 9:00 PM. The Opening Ceremony will be chaired by Hector Levesque, the Conference Chair of IJCAI-01. The reception will be hosted by The Boeing Company and Microsoft Corporation.

Shuttle service will be provided to the Museum of Flight on Gray Line of Seattle passenger coaches. Departures to the Museum of Flight begin at 5:45 PM and continue until 6:30 PM at the Convention Center Tunnel. Departures for downtown Seattle hotels begin at 9:00 PM.

Museum of Flight

The Museum of Flight captures the story of flight from the dawn of aviation to the Space Age and houses 54 of the world’s most historic airplanes — authentic and in mint condition. Dozens of full-size aircraft are suspended from the ceiling of the steel and glass Great Gallery and appear to fly overhead in formation. At ground level visitors can examine up close such intriguing airplanes as the Blackbird spy plane and America’s first presidential jet — the original Air Force One. The magnificently restored “Red Barn,” the birthplace of The Boeing Company, is an 80-year-old step back in history. Yet, from the hands-on air traffic control tower exhibit, which overlooks Boeing Field, today’s prop planes and jumbo jets can be viewed coming and going.

Technical Program

The IJCAI-01 Technical Program includes talks by 3 IJCAI-01 award winners, 4 invited speakers, 3 special events, and presentations of 197 papers, including 13 distinguished presentations that are further described below. The technical program will be held in the Washington State Convention & Trade Center. The detailed program follows on pages 12-19.

Program Chair: Bernhard Nebel

Distinguished Presentations

The International Joint Conference on Artificial Intelligence 2001 will have a special “distinguished presentation” track. In order to give IJCAI attendees a better picture of what is going on in the various subareas of AI, and to counter the fragmentation of the field, 13 distinguished recent presentations from international conferences in robotics, vision, knowledge representation, machine learning, planning and other areas have been selected to be presented again at IJCAI. These papers either received “best paper” awards at the respective conferences or were nominated as outstanding work by the PC Chairs/committee members or the IJCAI PC members. To make these research results accessible to a general AI audience, a significantly extended presentation of each of them will be given.

In addition to the presentation at the conference, the authors revised and extended their papers for a book co-edited by Gerhard Lakemeyer and Bernhard Nebel to be published by Morgan Kaufmann. This book is intended as a showcase of the state of the art in AI. In order to make the book as accessible as possible to a wide range of people interested in AI, the authors have been asked to broaden the scope of their presentation so that the paper does not just focus on the particular results, but also introduces the respective research area, its history, milestones, open issues, etc. To ensure the highest standards, each paper will be reviewed by an eminent scholar in the respective field.

Keynote Address

Tuesday, August 7
11:40 AM – 12:40 PM
Ballroom 6 B/C, sixth level

Bill Gates, Microsoft Corporation

SPECIAL EVENTS

The HAL 9000 Computer and the Vision of 2001: A Space Odyssey

David G. Stork, Ricoh California Research Center and Stanford University

Wednesday, August 8
11:40 am – 12:40 pm
Room 608

SPECIAL SHOWING

Stanley Kubrick’s 2001: A Space Odyssey

Wednesday, August 8
1:30 pm, Ballroom 6 B/C

Artificial Intelligence Competitions, Boon or Bane?

Moderator:
Steve Chien, Ph.D., Jet Propulsion Laboratory

Wednesday, August 8
11:40 am - 12:40 pm
Room 609

In recent years, the numerous AI-related competitions in various areas have included deduction (CADE), auctions, timeseries prediction, and planning. One view is that these competitions focus research and encourage quantifiable forward progress. Another view is that they emphasize implementation and sterile problem-solving and stifle truly innovative advances. This panel will discuss the competitions — with a focus on pros and cons experienced by the respective communities. Audience interaction will be encouraged.

The Semantic Web Elephant: What Do the Blind Men See?

Moderator:
Professor James Hendler, University of Maryland

Friday, August 10
11:40 am - 12:40 pm
Ballroom 6 B/C

A number of researchers in a widely diverse set of fields are starting to probe into a new area — the semantic web. Researchers are looking at this from the point of view of knowledge representation, web agents, new web languages, and the creation of high level ontologies on the web. Are these researchers myopically exploring competing visions or is there an emerging consensus as to what a semantic web can really be?
**Invited Speakers**

**Philip R. Cohen**  
Center for Human-Computer Communication, Oregon Graduate Institute

**Multimodal Interaction: Principles, Practice, Impact, and Challenges**  
**Friday, August 10, 8:30-9:30AM**  
**Ballroom 6 B/C, Sixth Level**

A new generation of multimodal systems is emerging in which the user is able to employ natural communication modalities, including spoken language and pen-based gesture, in addition to the usual graphical user interface technologies. To build such systems, we adopt the principle of using the strengths of one modality to overcome weaknesses in another. We discuss how to design multimodal systems according to this principle, and how to build robust multimodal architectures that employ it at runtime in a unification-based framework. These design and architectural principles will be illustrated through QuickSet — a handheld, collaborative, multimodal system that allows continuous speech and pen-based gesturing as input. QuickSet uses a fault-tolerant distributed agent architecture, runs on PCs, and is scalable from wearable to wall-sized systems. To assess the impact of multimodal interaction, we will describe a study comparing the use of a map-based graphical user interface and multimodal interaction. After discussing reasons why graphical user interfaces fail to satisfy users in high stress environments, we present a new version of the QuickSet technology that attempts to support them through a tangible multimodal user interface. Finally, we will discuss the challenges that await researchers when we try to support multimodal interaction among people.

**Joseph Y. Halpern**  
Cornell University

**Plausibility Measures: A General Approach for Representing Uncertainty**  
**Tuesday, August 7, 8:30-9:30AM**  
**Ballroom 6 B/C, Sixth Level**

Halpern discusses a new formalism for reasoning about uncertainty called plausibility. Plausibility is a generalization of probability: the plausibility of a set is just an element of some arbitrary partial order (instead of being an element of [0,1], as in the case of probability). Halpern shows that plausibility can be used to give insight into belief and belief change, default reasoning, decision rules, and (if time permits) when the technology of Bayesian networks can be applied to a representation of uncertainty. Some of this work is joint with Nir Friedman.

**Manuela Veloso**  
Carnegie Mellon University

**The Challenges and Advances in Teams of Autonomous Agents in Adversarial Environments**  
**Thursday, August 9, 8:30-9:30AM**  
**Ballroom 6 B/C, Sixth Level**

The research and development of teams of intelligent software agents and robots have fascinated RoboCup researchers for the last five years. We have actively researched on the integration of reasoning, perception, and action in teams of agents that need to face adversarial environments. Robotic soccer offered a pioneering concrete task for this research, both for software agents and robots. RoboCup today involves several new directions, including simulation and robot rescue tasks and humanoid robots. In this talk, Veloso will go in detail over the research challenges underlying teams of distributed software agents, small robots with onboard vision and computer control allowed, and fully autonomous robots and Sony legged robots. We have witnessed RoboCup significantly advancing the scientific state of the art of multiagent and multirobot systems. Veloso will introduce the main contributions, including robot design, multiagent learning, behavior architectures, perception, communication, localization, and opponent behavior modeling and recognition.
IAAI-01 Conference

IAAI-01 Conference
AUGUST 7 – 9, 2001
MEETING ROOM 602, SIXTH LEVEL,
WASHINGTON STATE CONVENTION & TRADE CENTER
IAAI-01 attendance is free to all IJCAI-01 registrants.

The Thirteenth Annual Conference on Innovative Applications of Artificial Intelligence (IAAI-2001) continues the IAAI tradition of serving as one of the premier venues for current work on artificial intelligence applications. As always, this year's conference features an outstanding selection of papers on deployed applications that use AI techniques, as well as papers on emerging technologies relevant to the design and development of AI applications. The 12 papers presented at the conference were selected from 37 papers submitted by authors from more than 12 countries. Five of these papers describe deployed applications, providing case studies on the design, management, and deployment of real-world systems incorporating AI technologies. The remaining seven papers discuss emerging technologies, work whose goal is the development of technologies relevant to the design and development of systems using AI technology. In addition to the 12 technical papers, IAAI-2001 also provides attendees of both conferences with three invited talks and a panel.

Artificial intelligence continues to be an exciting and profitable area of investigation for people interested in building software systems that operate in realistic environments incorporating a range of uncertainties and complexities. We are eager to see what future innovations may further follow from the work presented at this year's conference.

Program Committee
Haym Hirsh, Chair, Rutgers University
Steve Chien, Cochair, Jet Propulsion Laboratory
Bruce Buchanan, University of Pittsburgh
Robert S. Engelter, Stanford University
Usama Fayyad, digiMine
Ronen Feldman, Clearforest Corporation
Randall Hill, USC/Institute for Creative Technologies
Neil Jacobstein, Teknowledge Corporation
Craig Knoblock, USC/Information Sciences Institute
Alain Rappaport, Carnegie Mellon University
John Riedl, University of Minnesota
Charles Rosenberg, Carnegie Mellon University
Ted Senator, DARPA/ISO
Howard Shrobe, Massachusetts Institute of Technology
Reid Smith, Schlumberger Limited
Shirley Tessler, Aldo Ventures, Inc.
Ramasamy Uthusumary, General Motors Corporation
Marilyn Walker, AT&T Labs-Research

IAAI-01 Invited Talks

AI in Sci Fi: Imagining the Sentient Machine
TUESDAY, AUGUST 7, 3:10 – 4:10 PM
MEETING ROOM 602, SIXTH LEVEL

Could a computer ever be a person? Beyond the ability to perform complex tasks, what attributes would it need — personality, emotion, self-awareness? Can these ephemeral qualities be programmed, and if so, at what point does the creation become more human than hardware? Though these are questions that have certainly been asked by ethicists as well as scientists, this discussion will approach these issues from a unique perspective: that of the science fiction writer. Using specific episodes of the television series “Star Trek: Voyager” as a jumping off point, we’ll explore the creative process of inventing characters and story-lines that illuminate these themes — a process that may eerily mirror the challenges faced by scientists trying to create artificial intelligence.

Ken Biller has spent the past six years writing, directing, and producing episodes of “Star Trek: Voyager,” and most recently served as that series Executive Producer. His other credits include “The X-Files” and the telefilm “The Last Man on Planet Earth.” He is a graduate of Brown University.

Mass Market Intelligent Robots
THURSDAY, AUGUST 9, 11:40 AM – 12:40 PM
MEETING ROOM 602, SIXTH LEVEL

At iRobot Corporation we have been pushing intelligent robots into the mass market. The AI component differentiates them from the rest of the field but there are other equally difficult issues: costs, market creation, market penetration, and distribution.

Decoupling Art and Affluence
THURSDAY, AUGUST 9, 2:00 – 3:00 PM
MEETING ROOM 602, SIXTH LEVEL

In theory, a truly creative art-making program would have the potential to challenge the traditional hegemony of money over art. AARON, believed by many - but not by its author - to be such a program, has gone some way towards that goal, but raises unanswered questions about both the nature of creativity and the cultural functions of art.

IAAI-01 Personalization Panel
Moderator: John Reidl, Associate Professor, University of Minnesota, and Chief Scientist, Net Perceptions.
TUESDAY, AUGUST 7, 4:30 – 5:30 PM
MEETING ROOM 602, SIXTH LEVEL

Personalization has been revolutionizing the way shoppers find products to buy and information seekers find the information they seek. Advanced personalization systems use AI techniques to create Web services that transparently adapt themselves to fit the interests of their visitors. This panel will be of interest to people who want to understand what personalization is all about, who are interested in the algorithms behind personalization, or who are interested in social questions about the widespread use of personalization. The panel includes experts in personalization algorithms, advanced personalization applications, and the ways in which personalization is changing interaction on the Internet. We expect spirited discussion around why personalization is so important, the best ways to do personalization, and social issues surrounding personalization.

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<td>Distinguished Presentation: A Logical Account of Causal and Topological Maps Emilio Remolina and Benjamin Kuipers</td>
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<td>An On-line Decision-Theoretic Golog Interpreter Mikhail Soutschanski</td>
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## SEARCH
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Olivier Dubois and Gilles Dequen
Backbones in Optimization and Approximation
John Slaney and Toby Walsh

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Hideo Shimazu

## Invited Talk:
AI in Sci Fi: Imagining the Sentient Machine
Kenneth Biller

## SEARCH
A backpack-search heuristic for efficient solving of hard 3-SAT formulae
Olivier Dubois and Gilles Dequen
Backbones in Optimization and Approximation
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## PROBABILISTIC REASONING
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Moderator: John Riedl

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Joseph Bockhorn and Mark Craven
Automatically Extracting and Comparing Lexicalized Grammars for Different Languages
Fei Xia, Chung-Sye Han, Martha Palmer, and Aravind Joshi

## Machine Learning
Learning on the Phase Transition Edge
Alessandro Serra, Attilio Giordana, and Lorenza Saitta
A Simple Additive Re-weighting Strategy for Improving Margins
Fabio Aiolli and Alessandro Sperduti

## Invited Panel:
Personalization Technologies
Moderator: John Riedl

### TECHNICAL PROGRAM

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**Search**
A backbone-search heuristic for efficient solving of hard 3-SAT formulae
Olivier Dubois and Gilles Dequen
Backbones in Optimization and Approximation
John Slaney and Toby Walsh

**Neural Networks**
Knowledge Extraction from Local Function Networks
Kenneth McGarry, Stefan Wermter, and John MacIntyre
Violation-Guided Learning for Constrained Formulations in Neural-Network Time-Series Predictions
Benjamin C. Wah and Mingjun Qian
Mobile Robot Learning of Delayed Response Tasks through Event Extraction: A Solution to the Road Sign Problem and Beyond
Fredrik Linaker and Henrik Jacobsen

**Games**
Iterative Widening
Tristan Cazenave
Temporal Difference Learning Applied to a High-Performance Game-Playing Program
Jonathan Schaeffer, Markian Hlynka, and Vili Jussila
Satisficing and Learning Cooperation in the Prisoner’s Dilemma
Jeff Stimpson, Michael A. Goodrich, and Lawrence C. Walters

**Constraint-Based Modeling of InterOperability Problems using an Object-Oriented Approach (Emerging Technology)**
Mohammed H. Sqalli and Eugene C. Freuder
Electric Elves: Applying Agent Technology to Support Human Organizations (Emerging Technology)
Interchanging Agents and Humans in Military Simulation (Deployed Application)
C. Heinze, S. Goss, T. Josienson, K. Bennett, S. Waugh, I. Lloyd, G. Murray, and J. Offield

**Search**
Cooperative Search and Nogood Recording
Cyril Ierissos
Search on High Degree Graphs
Toby Walsh

**Neural Networks**
NORM Finance Forecaster – A Neural Oscillatory-based Recurrent Network for Finance Prediction
Raymond Lee and James Liu
A General Updating Rule for Discrete Hopfield-Type Neural Network with Delay
Shenshan Qiu, Eric C.C. Tsang, Daniel S. Yeung, and Xihao Wang

**Web Applications**
A Web-based Intelligent System for the Daya Bay Contingency Plan in Hong Kong
James Liu, Raymond Lee, and Jane You
ExpertClerk: Navigating Shoppers’ Buying Process with the Combination of Asking and Proposing
Hideo Shimazu

**Invited Talk:**
AI in Sci Fi: Imagining the Sentient Machine
Kenneth Biller

**Satisfiability**
Backjumping for Quantified Boolean Logic Satisfiability
Enrico Giunchiglia, Massimo Narizzano, and Armando Tacchella
Solving Non-Boolean Satisfiability Problems with Stochastic Local Search
Alan M. Frisch and Timothy J. Pougnet

**Statistical Processing of Natural Language Grammars**
Refining the Structure of a Stochastic Context-Free Grammar
Joseph Bockhorn and Mark Craven
Automatically Extracting and Comparing Lexicalized Grammars for Different Languages
Fei Xia, Chung-Sye Han, Martha Palmer, and Aravind Joshi

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**WEDNESDAY, AUGUST 8**

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<tr>
<td><strong>8:30 AM – 9:30 AM</strong></td>
<td>Invited Talk: Robust Translation of Spontaneous Speech: A Multi-Engine Approach</td>
<td>Wolfgang Wahlster, German Research Center for Artificial Intelligence (DFKI)</td>
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**9:30 AM – 10:00 AM COFFEE BREAK**

**10:00 AM – 11:30 AM**

- **Distinguished Presentation:**
  - D-Learning: What we can learn from dogs about building characters that can learn
  - Song-Yee Yoon, Bruce M. Blumberg, and Gerald E. Schneider
  - (10:00 – 11:00 AM)

- **Spatial Reasoning**
  - Ambiguity-Directed Sampling for Qualitative Analysis of Sparse Data from Spatially-Distributed Physical Systems
  - Chris Bailey-Kellogg and Naren Ramakrishnan
  - A Spatial Odyssey of the Interval Algebra: Directed Intervals
  - Jochen Renz
  - From Images to Bodies: Modelling and Exploiting Spatial Occlusion and Motion Parallax
  - David Randell, Mark Wilkowki, and Murray Shanahan

- **Belief Revision**
  - On the Semantics of Knowledge Update
  - Chitta Baral and Yan Zhang
  - Resource-bounded inference from inconsistent belief bases
  - Pierre Marquis and Nadège Porquet
  - Weakening Conflicting Information for Iterated Revision and Knowledge Integration
  - Salem Brenderhat, Suhila Kaci, Daniel Le Berre, and Mary-Anne Williams

**11:40 AM – 12:40 PM**

**1:30 PM 2001: A SPACE ODYSSEY**

**IJCAI-01 Conference Banquet**

- Wednesday, August 8, 6:15-10:30 pm
- Tillicum Village
- Cost: $75 per person

The journey to Tillicum Village begins at Piers 55 on Seattle’s Grand Central Waterfront, where attendees will board a charter vessel to Blake Island at 6:15 pm. The cruise on Puget Sound out to the island arrives at about 7:15 pm. Visitors will be greeted by a Native American drummer, and then enter the great cedar longhouse for an award-winning salmon feast. Tillicum Village salmon is cooked over an open fire on cedar stakes in the ancient Northwest Coast Native American fashion.

Following dinner, banquet attendees will enjoy “Dance on the Wind,” a magnificent stage presentation that highlights some of the traditional dances, myths, and legends of the Northwest Coast in a magical and unforgettable setting. After “Dance on the Wind”, the natural riches of Blake Island State Park can be enjoyed on its beautiful beaches and trails.

The Tillicum Village facility, which is a traditionally styled Northwest Coast Native American cedar longhouse, has many artifacts on display. The Gift Gallery in the longhouse has items that represent several different tribes, as well as many unique items crafted by Tillicum Village staff members.

At 9:30 pm attendees will board the chartered vessel at Blake Island marina for the return trip to Seattle, arriving back at pier 55 about 10:30 pm. The return trip offers magnificent views of the Seattle skyline from the beautiful waters of Elliott Bay.

**IJCAI-01 Conference Banquet**

- Tillicum Village, Blake Island, Puget Sound
### Technical Program

| Room | Session
|------|--------------------------------------------------|
| Room 609 | **Multi-Agent Systems**<br>Reflective Negotiating Agents for Real-Time Multisensor Target Tracking<br>Leen-Kiat Soh and Costas Tsiatsoulis<br>Stable Strategies for Sharing Information among Agents<br>Rina Azoulay-Schwartz and Sarit Kraus<br>CAST: Collaborative Agents for Simulating Teamwork<br>John Yin, Jianwen Yin, Thomas R. Joerger, Michael S. Miller, Dianxiang Xu, and Richards A. Velt

| Room 611 | **Case-Based Reasoning**<br>Bridging the Lesson Distribution Gap<br>David W. Aha, Rosina Weber, Héctor Muñoz-Ávila, Leonard A. Breslow, and Kalyan Moy Gupta<br>Minimizing Dialog Length in Interactive Case-Based Reasoning<br>David McSherry<br>SiN: Integrating Case-based Reasoning with Task Decomposition<br>Héctor Muñoz-Ávila, David W. Aha, Dana S. Nau, Rosina Weber, Len Breslow, and Fusun Yama

| Room 612 | **Complexity of Planning**<br>Complexity of Probabilistic Planning under Average Rewards<br>Jussi Rintanen<br>Computational Complexity of Planning with Temporal Goals<br>Chitra Baral, Vladik Kreinovich, and Raúl T rejo<br>A Simplifier for Propositional Formulas with Many Binary Clauses<br>Ronen Brafman

| IAAI Room 602 | **TALPS: The T-AV/B Automated Load Planning System (Deployed Application)**<br>Paul S. Cerkez<br>Token Allocation Strategy for Free-Flight Conflict Solving (Emerging Technology)<br>Geurard Granger, Nicolas Durand, and Jean-Marc Alliot<br>The RadarSAT-MAMM Automated Mission Planner (Deployed Application)<br>Benjamin D. Smith, Barbara E. Engelhardt, and Darren H. Mutz

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**Invited Panel:**<br>Artificial Intelligence Competitions, Boon or Bane<br>Moderator: Steve Chien, Jet Propulsion Laboratory

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**9:30 AM – 10:00 AM COFFEE BREAK**

**12:40 PM – 2:00 PM LUNCH**

**IJCAI CONFERENCE BANQUET**
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<td>3:10 PM – 4:10 PM</td>
<td>Distinguished Presentation: Understanding Belief Propagation and Its Generalizations Jonathan Yedidia, William Freeman, and Iair Weiss</td>
<td>Reinforcement Learning Robotics Multi-Agent Systems by Incremental Gradient Reinforcement Learning Alain Duthe, Olivier Buffo, and Françoix Charpillet Robot Weightlifting By Direct Policy Search Michael T. Rosenstein and Andrew G. Barto</td>
<td>Domain Analysis for Planning One action is enough to plan Emmanuel Garré and Rachel Alami Hybrid STAN: Identifying and Managing Combinatorial Optimization Sub-problems in Planning Marta Fox and Derek Long</td>
<td>Machine Learning and Data Mining Faster Association Rules for Multiple Relations Siegfried Nijssen and Joost Kok A Simple Feature Selection Method for Text Classification Pascal Soucy and Guy W. Mineau</td>
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<td>5:45 PM – 6:45 PM</td>
<td>IJCAI Research Excellence Lecture Donald Michie, University of Edinburgh</td>
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## ROOM 609

### CONSTRAINT SATISFACTION PROBLEMS
- Backtracking Through Riconnected Components of a Constraint Graph  
  Jean-François Baget and Yannic S. Trignetti

- A Constraint Satisfaction Approach to Parametric Differential Equations  
  M. Janssen, P. Van Hentenryck, and Y. Deville

- Improved bounds on the complexity of klt-consistency  
  Lucas Bordeaux, Eric Monfroy, et Frédéric Benhamou

### NEURAL NETWORKS AND GENETIC ALGORITHMS
- Genetic Algorithm based Selective Neural Network Ensemble  
  Zhi-Hua Zhou, Jian-Xin Wu, Yuan Jiang, et Shi-Fu Chen

- Neurol Network Learning using Genetic Programming  
  Chew Lim Tan and Henry Wai Kit Chia

- Sensitivity Analysis of Multilayer Perception  
  D.S. Young, Xiaojian Sun et Xiaojin Zeng

### DESCRIPTION LOGICS AND CONCEPTUAL GRAPHS
- Decision Procedures for Expressive Description Logics with Intersection, Composition, Converse of Roles and Role Identity  
  Fabio Massacci

- Ontology Reasoning in the SHOQID Description Logic  
  Ian Horrocks et Ulrike Sattler

- The 5G Family: Extensions of Simple Conceptual Graphs  
  Jean-François Baget et Marie-Laure Magnier

### ROOM 611

### CONSTRAINT SATISFACTION PROBLEMS
- Refining the Basic Constraint Propagation Algorithm  
  Christian Bessière et Jean-Charles Régin

- Making AC-3 an Optimal Algorithm  
  Yuanlin Zhang et Roland H.C. Yap

### PROBABILISTIC LEARNING
- Active Learning for Structure in Bayesian Networks  
  Simon Tong et Daphne Koller

- Probabilistic Classification and Clustering in Relational Data  
  Ben Taskar, Eran Segal, et Daphne Koller

### COGNITIVE MODELING — DIAGRAMATIC REASONING
- Formalizing Artistic Techniques and Scientific Visualization for Painted Renditions of Complex Information Spaces  
  Christopher G. Healey

- Visual Analogy in Problem Solving  
  Jim R. Davies et Abhishek K. Goel

### ROOM 612

### CONSTRAINT SATISFACTION PROBLEMS
- Temporal Constraint Reasoning With Preferences  
  Christian Bessière et Jean-Charles Régin

- Making AC-3 an Optimal Algorithm  
  Yuanlin Zhang et Roland H.C. Yap

### CASE-BASED REASONING
- A Distributed Case-Based Query Rewriting  
  Maurizio Panti, Luca Spalazzi, et Loris Penserini

- Using Case-Base Data to Learn Adaptation Knowledge for Design  
  Jacek Jarmulak, Susan Craw, et Ray Rowe

### MULTI-AGENT SYSTEMS
- Bundle Design in Robust Combinatorial Auction  
  Makoto Yokoo, Yoko Sakurai, et Shigeo Matsuoka

- CABOR: A Fast Optimal Algorithm for Combinatorial Auctions  
  Tianran Sandholm, Subhash Suri, Andrew Gilpin, et David Levine

### ROOM 602

### CONSTRAINT SATISFACTION PROBLEMS
- The Exponentiated Subgradient Algorithm for Heuristic Boolean Programming  
  Dale Schuurmans, Finnegan Southey, et Robert C. Holte

- A New Method For The Three Dimensional Container Packing problem  
  Michel Vasquez et Jin-Kao Hao

### MACHINE LEARNING AND DATA MINING
- Adaptive Web Navigation for Wireless Devices  
  Ginz R. Anderson, Pedro Domingos, et Daniel S. Weld

- Using Text Classifiers for Numerical Classification  
  Sofis Sitara Mackay, Haym Hirsh, et Arunava Banerjee, et Aynur A. Dayanik

### MULTI-AGENT SYSTEMS
- A software architecture for dynamically generated adaptive Web stores  
  Liliana Andreiocco, Anna Goy, et Giovanna Petrone

- Modularity and Design in Reactive Intelligence  
  Joanna J. Bryson et Lynn Andrea Stein

### TECHNICAL PROGRAM

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- **4:10 PM – 4:30 PM COFFEE BREAK**

- **4:40 PM – 6:00 PM COFFEE BREAK**
FRIDAY, AUGUST 10

**TIME** | **BALLROOM 6 B/C** | **ROOM 606** | **ROOM 607** | **ROOM 608**
---|---|---|---|---
8:30 AM – 9:30 AM | Invited Talk: Multimodal Interaction: Principles, Practice, Impact, and Challenges  
Philip R. Cohen, Center for Human-Computer Communication, Oregon Graduate Institute | | | |
9:30 AM – 10:00 AM | COFFEE BREAK | | | |
10:00 AM – 11:30 AM | Distinguished Presentation:  
Qualitative spatio-temporal representation and reasoning: a computational perspective  
Frank Wolter and Michal Zaharyaschev  
(10:00 – 11:00 AM) | VISION  
Learning Iterative Image Reconstruction  
Sven Behnke  
Efficient Interpretation Policies  
Ramana Isukapalli and Russell Greiner  
A Hierarchy of Boundary-based Shape Descriptors  
Richard Meatheral and Antony Galton | THEOREM PROVING  
Splitting Without backtracking  
Alexandre Riazanov and Andrei Voronkov  
UNSEARCHMO: Eliminating Redundant Search Space on Backtracking for Forward Chaining Theorem Proving  
Lifeng He  
Theorem Proving with Structured Theories  
Sheila McIlraith and Eyal Amir | NATURAL LANGUAGE EXPLANATION AND ARGUMENTATION  
Dialog-driven Adaptation of Explanations of Proofs  
Armin Fiedler  
Generating Tailored Examples to Support Learning via Self-Explanation  
Cristina Conati and Giuseppe Carenini  
An Empirical Study of the Influence of User Tailoring on Evaluative Argument Effectiveness  
Giuseppe Carenini and Johanna B. Moore |
11:40 AM – 12:40 PM | Invited Panel:  
The Semantic Web Elephant: What Do the Blind Men See?  
Moderator: James Hendler, University of Maryland | LOGIC PROGRAMMING  
A Framework for Declarative Update Specifications in Logic Programs  
Thomas Eiter, Michael Fink, Giuliana Sabbatini, and Hans Tompits  
Abduction in Logic Programming: A New Definition and an Abductive Procedure Based on Rewriting  
Fangheng Lin and Jia Huai You | UNCERTAINTY  
Weakening Commensurability Hypothesis in Possibilistic Qualitative Decision Theory  
Adriana Zapico  
A Fuzzy Modal Logic for Belief Functions  
Luis Godo, Petr Hájek, and Francesc Esteva | MULTI-AGENT SYSTEMS  
The Fair Imposition  
Yoram Shoham and Moshe Tenenboim  
Robust Multi-unit Auction Protocol against False-name Bids  
Makoto Tokoo, Yoko Sakurai, and Shiggo Matsubara |
2:00 PM – 3:00 PM | Distinguished Presentation:  
Virtual Humans for Team Training in Virtual Reality  
Jeff Rickel and W. Lewis Johnson | DIAGNOSIS  
Distributed Monitoring of Hybrid Systems: A Model-Directed Approach  
Feng Zhao, Xenofon Koutsoukos, Horst Hausercker, James Reich, Patrick Cheung and Claudia Picardi  
Causal interaction: from a high-level representation to an operational event based representation  
Irène Grosclaude, Marie-Odile Cordier, and René Quiniou | ANSWER SET PROGRAMMING  
Experimenting with Heuristics for Answer Set Programming  
Wolfgang Faber, Nicola Leone, and Gerald Pfeifer  
Graph Theoretical Characterization and Computation of Answer Sets  
Thomas Linke | COGNITIVE MODELING — CATEGORIZATION  
Reasoning about Categories in Conceptual Spaces  
Peter Gardenfors and Mary Anne Williams  
Simulating the Formation of Color Categories  
Tony Belpaeme |
3:10 PM – 4:10 PM | Distinguished Presentation:  
Identifying Semantic Roles in Text  
Daniel Gildea and Daniel Jurafsky | FACTORED MARKOV DECISION PROCESSES  
Solving Factored MDPs via Non-Homogeneous Partitioning  
Kee-Eung Kim and Thomas Dean  
Symbolic Dynamic Programming for First-Order MDPs  
Craig Boutillier, Ray Reiter, and Bob Price | DIAGNOSIS  
Temporal Decision Trees or the lary ECU vindicated  
Luca Colleda, Claudia Picardi, and Daniele Theodor Dupré  
Model-Based Diagnosability and Sensor Placement Application to a Frame 6 Gas Turbine Subsystem  
Louise Trévé-Massuyès, Teresa Escobar, and Robert Milne | COGNITIVE MODELING — PERCEPTUAL GROUNDING  
Grounded Models as a Basis for Intuitive Reasoning  
Joséfina Sierra-Santibañez  
Perceptual Anchoring of Symbols for Action  
Silvio Coradeschi and Alessandro Saffiotti |
### Planning with Forward Search
- Planning with Resources and Concurrency: A Forward Chaining Approach
  - Fahiem Bacchus and Michael Ady
- Total-Order Planning with Partially Ordered Subtasks
  - Dana Nau, Héctor Muñoz-Avila, Yue Cao, Amnon Lotem, and Steven Mitchell
- Conditional progressive planning under uncertainty
  - Lars Karlsson

### Description Logics and Formal Concept Analysis
- Matching under Side Conditions in Description Logics
  - Franz Baader, Sebastian Brandt, and Ralf Küsters
- Computing Least Common Subsumers in ALEN
  - Ralf Küsters and Ralf Molitor
- FCA-Merge: Bottom-Up Merging of Ontologies
  - Gerd Stumme and Alexander Markech

### Reinforcement Learning
- R-MAX — A General Polynomial Time Algorithm for Near-Optimal Reinforcement Learning
  - Ronen Brafman and Moshe Tennenholtz
- From Q(λ) to Average Q-learning: Efficient Implementation of an Asymptotic Approximation
  - Federico Garcia and Florent Serre
- Exploiting Multiple Secondary Reinforcers in Policy Gradient Reinforcement Learning
  - Greg Grudic and Lyle Ungar

### Information Extraction and Retrieval
- Representing Sentence Structure in Hidden Markov Models for Information Extraction
  - Soumya Ray and Mark Craven
- Sequentially Finding the N-Best List in Hidden Markov Models
  - Dennis Nilsson and Jacob Goldberger
- NLP-driven IR: Evaluating Performances over a Text Classification task
  - Roberto Basili, Alessandro Moschitti and Maria Teresa Piazzera

### Hierarchical Diagnosis and Monitoring
- Hierarchical Diagnosis Guided by Observations
  - Luca Chittaro and Roberto Ronan
- Mode Estimation of Model-based Programs: Monitoring Systems with Complex Behavior
  - Brian C. Williams, Seung Chung, and Vineet Gupta

### User Interfaces
- Usability Guidelines for Interactive Search in Direct Manipulation Systems
  - Robert St. Amant and Christopher G. Healey
- Leveraging Data About Users in General in the Learning of Individual User Models
  - Anthony Jameson and Frank Wittig

### Machine Learning and Data Mining
- The Foundations of Cost-Sensitive Learning
  - Charles Elkan
- Mining Soft-Matching Rules from Textual Data
  - Un Yoon Nahm and Raymond J. Mooney

### Planning with Temporal Uncertainty
- Executing Reactive, Model-based Programs through Graph-based Temporal Planning
  - Phil Kim, Brian C. Williams and Mark Abramson
- Dynamic Control Of Plans With Temporal Uncertainty
  - Paul Morris, Nicola Muscettola, and Thierry Vidal

### Search Heuristics in Planning
- Local Search Topology in Planning Benchmarks: An Empirical Analysis
  - Jörg Hoffmann
- Reviving Partial Order Planning
  - XuanLong Nguyen and Subbarao Kambhampati

### Knowledge Acquisition
- Knowledge Analysis on Process Models
  - Jihie Kim and Yoandla Gil
- Integrating Expectations from Different Sources to Help End Users Acquire Procedural Knowledge
  - Jim Blythe

### Multi-Agent Games
- Rational and Convergent Learning in Stochastic Games
  - Michael Bowling and Manuela Veloso
- Multi-Agent Influence Diagrams for Representing and Solving Games
  - Daphne Koller and Brian Milch

### Market Mechanisms
- Market Clearability
  - Tuomas Sandholm and Subhash Suri
- On Market-Inspired Approaches to Propositional Satisfiability
  - William E. Walsh, Makoto Yokoo, Katsumi Hirayama, and Michael P. Wellman

### Machine Learning and Data Mining
- Link Analysis, Eigenvectors and Stability
  - Andrew Y. Ng, Alice Zheng, and Michael Jordan
- Active Learning for Class Probability Estimation and Ranking
  - Maytal Saar-Tsechansky and Foster Provost

### Multi-Agent Systems
- Bidding Languages for Combinatorial Auctions
  - Craig Boutilier and Holger H. Hoos
- Partitioning Activities for Agents
  - Fatma Ocean and VS. Subrahmanian
IJCAI-01 Exhibit Program

The exhibition will be held in Exhibit Hall 4B on the fourth level of the Washington State Convention & Trade Center, Tuesday, August 7 through Thursday, August 9. Admittance is restricted to badged conference attendees. Vendor-issued guest passes must be redeemed at the Exhibitor Registration Desk, in the registration area on the fourth level of the Washington State Convention & Trade Center. Further information regarding access to the Exhibition can be obtained from the Exhibitor Registration Desk.

EXHIBIT HOURS
Tuesday, August 7  10:00 AM – 6:00 PM
Wednesday, August 8  10:00 AM – 6:00 PM
Thursday, August 9  10:00 AM – 4:30 PM

RoboCup 2001 and RoboCup Junior will be held in Exhibit Hall 4A, adjacent to the main IJCAI-01 Exhibit Hall, August 1-10. For more information on RoboCup, please see page 24.

EXHIBITORS
- AAAI Press
- Acroname Inc.
- ActivMedia Robotics, LLC
- AI Topics – The AAAI Pathfinder
- Carnegie Mellon University
- ECCAI – European Co-ordinating Committee for AI
- Franz Inc.
- iRobot Corporation
- Kluwer Academic Publishers
- MindBox, Inc.
- The MIT Press
- Morgan Kaufmann Publishers
- NASA Ames Research Center
- Naval Research Laboratory
- PC AI Magazine
- ScienceDirect
- SGI
- Sony America ERA
- Springer Verlag New York, Inc.
- TRACLabs, A Division of Metrica, Inc.
- University of Alberta AI Lab
- University of Washington

BOOTH #313
ActivMedia Robotics
44 Concord Street • Peterborough, NH 03458, USA 1-603-924-9100

ROBOTS GET A GRIP ON IT! In past years, we’ve focused on our intelligent laser navigation and vision systems. This year, see all the new options ActivMedia Robotics offers for manipulation: from little AmigoFingers to the new Pioneer 2 classroom arm to mammoth new MonsterBot carrying a 6 dof industrial arm. Also showing: new ARBS plug-n-play software for quick demos, online robot operation and classroom instruction; new ARIA C/C++ transparent robot operating environment; Saphira Laser Navigation system, PTZ Vision, and our Pioneer 2-DX, P2-AI, AmigoBot, PeopleBot & MonsterBot robots.

robots@activmedia.com; www.activrobots.com

BOOTH #308
AI Topics – the AAAI Pathfinder
Jon Glick, Webmaster
Website: www.aaai.org/Pathfinder.html
E-mail: AITopics@aol.com

AI Topics is a dynamic online library sponsored by the American Association for Artificial Intelligence for students, teachers, journalists, and everyone who would like to learn more about what artificial intelligence is, and what AI scientists do. This free web site offers a limited number of exemplary, non-technical resources that have been organized and annotated to provide meaningful access to basic information about the AI universe.

Although you can always find AI Topics online at www.aaai.org/aitopics, this conference offers you the exciting opportunity to visit AI Topics in person at Booth #308. Since you are either a potential user of the web site or a potential contributor to it, we'd really like to meet you and introduce you to the site. And because AI Topics is dedicated to serving you, we're very interested in hearing your questions, ideas, concerns, suggestions, and criticism.

Please stop by and let's get acquainted!

BOOTH #210
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c/o Intelligent Applications • 1 Michaelson Square Livingston, W. Lothian • EH54 7DP, Scotland, UK +44 1506 47 20 47 • www.eccai.org

ECCAI is the European Co-ordinating Committee on Artificial Intelligence. This umbrella organisation brings together the more than 25 National AI societies in Europe. Its primary focus is to share information on AI activities and events across Europe, and to help the national societies to work together. They also provide a program of travel grants and ECCAI Fellowships. ECCAI is responsible for the bi-annual European-wide AI conference. Information on ECAI-2002 to be held in July in Lyon, France, including the call for papers for the technical conference and PAIS-2002, the Prestigious Applications of AI conference. In addition, information on proceedings of past ECAI conferences, published by IOS Press, will be available.

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Franz Incorporated
1995 University Avenue, #275 • Berkeley, CA 94704 (510) 548-3600

Franz Inc. produces Allegro CL® 6.0, a complete, cross-platform development environment powered by Common Lisp/CLOS. Allegro CLs dynamic object-oriented technology allows developers to create leading edge, mission-critical applications that are robust, scaleable, and easy to evolve and deploy. With Allegro CL, developers can create powerful applications that get to market quickly, can change frequently, and grow with their end users. Allegro CL is ideal for Dynamic Servers, Manufacturing scheduling and control, IC design & synthesis, Knowledge Management and Data Mining. Other Franz Inc. products include AllegroServe™, a dynamic web-enabling Lisp Web Server, Allegro ORBLink™, a CORBA-compliant ORB, and AllegroStore®, a persistent object database.

BOOTH #312
iRobot Corp., Research Robots Division
32 Fitzgerald Drive • PO Box 375 Jaffrey, NH 03452 • 603-532-6900 • www.irobot.com

Inspire. Encourage. Enable.
iRobot's team of dedicated engineers, software developers and production specialists embrace creativity, innovative thinking and cutting-edge technology to design and build a growing family of versatile, rugged, fully integrated mobile robot systems. The revolutionary Mobility Robot Integration Software and rFLEX Robot Control Architecture drive the entire family of research robot platforms, providing seamless, top-to-bottom integration along with clear, intuitive migration paths among platforms. iRobot's mission is to provide robot development tools that inspire, encourage and enable advances in robotics. Stop by to see these great red machines in action.
continued this publishing philosophy with more than 150 books in the AI field, most of which are today considered the definitive works in their fields.

**BOOTH #307**

**NASA Ames Research Center**

The Computational Sciences Division at NASA Ames Research Center conducts research in artificial intelligence and computer science that will enable the critical technologies necessary for NASA's missions of exploration in the 21st Century. The Ames exhibit will feature current work on autonomous spacecraft control, preparations for the 2003 rover mission to Mars, and a demonstration of a neural network based adaptive flight controller.

**BOOTH #214**

**Naval Research Laboratory**

NRL's Navy Center for Applied Research in Artificial Intelligence (NCARAI) presents work in several areas of AI including computer vision, human computer interaction, intelligent multi-modal multimedia communication, natural language understanding, case-based reasoning, and machine learning, particularly the evolution of cooperative control for multi-robot systems. Results from these research areas are being integrated with the mobile robotics effort to develop intelligent robots which use adjustable autonomy and adaptation to perform a variety of tasks including military operations support and urban search and rescue. Several robots can be easily directed using a multimodal interface combining speech, natural gesture, and PDA input.

**BOOTH #311**

**Springer Verlag New York, Inc.**

175 Fifth Avenue • New York, NY 10010
Phone: (212) 460-1533 • Fax: (212) 533-5587

Save 20% on artificial intelligence titles from Springer-Verlag! From the acclaimed *How To Solve It: Modern Heuristics* and the new *Coordination of Internet Agents*, to journals such as *Pattern Analysis and Applications* and *AI & Society*, Springer has established a reputation for publishing essential books and journals in all areas of artificial intelligence.

**BOOTH #414**

**TRACLabs, a division of Metrica, Inc.**

8620 N. New Braunfels, Suite 603
San Antonio, TX 78217-6363
Contact: Bob Hattier at 210-822-2310

**Biclops**: our pan, tilt, verge head for monocular or stereo vision applications. It is compact, lightweight, low power, and accurate. Key features include:
- Rugged and finely adjustable camera mounts
- Novel verge mechanism provides zero backlash and high precision
- Pan and tilt mechanisms have separate drive and feedback trains for precise observability
- Wide pan axis bearing allows for orderly camera cable routing through base
- All control electronics are housed in the base
- Industry-standard, serial interface provides several position and velocity PWM servo control modes

Biclops is also available with fixed-verge and in custom configurations.

**BOOTH #310**

**University of Alberta AI Lab**

Web-Based Interactive AI Resources

The web is fundamentally changing the field of artificial intelligence (AI); it can also improve the way we "teach" the ideas underlying our field. The rich assortment of media available — including applets, sound, video, down-loads, and text — can be exploited to make AI come alive. This booth will present a variety of web-based systems, each designed to help teach some aspect of AI. These resources are from the IJCAI workshop on “Effective Interactive Artificial Intelligence Resources”

http://mainline.brynmawr.edu/EIAIR/IJCAI01.html

Our eventual goal is a collection of tools for teaching AI, which is informative, useful, up-to-date, and, most important, fun.

We will include demos from:
- University of Alberta (http://www.cs.ualberta.ca/~aixplore/)
- University of British Columbia (http://www.cs.ubc.ca/labs/ici/Clspace/)
- University of Calgary (http://tiger.cpsc.ucalgary.ca/WebGrid/WebGrid.html)
- University of Saskatchewan (http://www.cs.usask.ca/projects/aries/)

See http://mainline.brynmawr.edu/EIAIR/ for an overview of some of the available resources.
The AAAI Mobile Robot Competition and Exhibition

This year's IJCAI will include several events showing off the communities' work in intelligent robotics. Events will cover both research and applied robot systems. The Robot Competition and Exhibition will be held in Exhibit Hall 4B on the fourth level of the Washington State Convention & Trade Center, and will be open to registered conference attendees during exhibit hours.

The mission of the Mobile Robot Competition and Exhibition is to serve AAAI, AI-robotics researchers, and the larger AI community by promoting innovative research through events which appeal to media and sponsors, while conducting these events in a format that facilitates comparison of approaches, but at low risk to individual or institutional reputations. Its goals are to:

◆ Foster the sharing of research and technology
◆ Allow research groups to showcase their achievements
◆ Encourage students to enter robotics and artificial intelligence fields at both the undergraduate and graduate level
◆ Increase awareness of the field

In previous years, the event has attracted both local and national news media — the 1996 contest resulted in a segment in Alan Alda's "Scientific American Frontiers" program on the Discovery Channel.

Events

The Competition and Exhibition comprises three separate events.

Robot Rescue

This year this event is being held jointly with RoboCup. The objective of this contest is to give participants the opportunity to work in a domain of critical practical importance. Robots must enter a fallen structure, find human victims, and direct human rescuers to the victims.

Hors d’oeuvres anyone?

The objective of this contest is to create service robots that can offer hors d’oeuvres to attendees at the receptions. Each contestant is required to explicitly and unambiguously demonstrate interaction with the spectators. This event is designed to support research in human-robot interaction.

Exhibition

The exhibition gives researchers an opportunity to demonstrate state-of-the-art research in a less structured environment. Exhibits are scheduled through several days of the conference, and in addition to live exhibits, a video proceedings is produced.

TEAM PARTICIPANTS

Robot Rescue

Spud and Friends

Rescue Robot
Cynthia Forgie, David Gustafson, Kansas State University

Mario & Company
Gil Jones and Bruce Maxwell, Swarthmore College

Rescue Robot
Daniel Farinha, Jesus Juarez-Guerrero, John Pissokas, University of Edinburgh

Lobotomous and Kirby
Christopher Smith, University of New Mexico

Rescue Robot
Robin Murphy, University of South Florida

Emdad1
Amir Hossein Jahangir, Sharif University of Technology

Blue Swarm I & II
Dan Stormont, Utah State University

AAAI/RoboCup Mobile Robot Exhibition

Spud and Friends

Rescue Robot
Cynthia Forgie, David Gustafson, Kansas State University

Air Hockey Playing with the Humanoid Robot DB
Darrin Bentivegna, Georgia Institute of Technology

Tortoise
Ron A. Nucci

Sharif CE Rescue Robot Team
Amir Hossein Jahangir, Sharif University of Technology

Mario + company
Gil Jones, Bruce Maxwell, Swarthmore College

PINO
Hiroaki Kitano, Erato Kitano, Symbiotic Systems Project

Robot
Kimbugwe Tonny, Uganda East Africa

CARL project
Luís Seabra Lopes, Universidade de Aveiro - Portugal

Scout
Paul E. Rybski, Sascha A. Stoeter, University of Minnesota

Blue Swarm I & II
Dan Stormont, Utah State University

AAAI Hors D’oeuvres Contest

Jim2, Flying Ginsu
Jonathan Hurst, Brian Kirby, Anthony Rowe, Carnegie Mellon University

KSU2
David Gustafson, Kansas State University

Mario
Bruce Maxwell, Swarthmore College

CARL project
Luís Seabra Lopes, Universidade de Aveiro - Portugal

Eric
Robot Partners group from the Laboratory for Computational Intelligence, University of British Columbia
IJCAI-01 Exhibit: The AAAI Mobile Robot Competition & Exhibition
and the National Botball 2001 Tournament

Organizers

General Chairs
Robot Competition & Exhibition
Tucker Balch, Carnegie Mellon University
Holly Yanco, University of Massachusetts Lowell

Robot Rescue
Holly Yanco, University of Massachusetts Lowell

Hors d’oeuvres Anyone?
Francois Michaud, University of Sherbrooke
David A. Gustafson, Kansas State University

AAAI Robot Exhibition
Vandi Verma, Carnegie Mellon University
Brian Adams, Massachusetts Institute of Technology

AAAI Robot Workshop
Brian Scassellati, Carnegie Mellon University

National Botball Tournament
Cathryne Stein, Kiss Institute for Practical Robotics
David Miller, Kiss Institute for Practical Robotics
Darcy Hartz Schein, Kiss Institute for Practical Robotics

Schedule (Subject to Change)

Tuesday, August 7
10:00AM - 2:00PM
Rescue Robot preliminary rounds
12:30PM
Botball Seeding Rounds
3:00PM - 6:00PM
Hors d’oeuvres preliminary rounds

Wednesday, August 8
10:00AM - 2:00PM
Rescue Robot FINALS
12:30 PM
Botball Double Elimination Rounds
5:00PM
Botball Awards

Thursday, August 9
9:00AM - 11AM
Exhibition
12:00 - 1:00PM
Hors d’oeuvres FINALS
1:00PM - 2:00PM
Awards and Photos
2:00PM - 6:00PM
AAAI Mobile Robot Workshop
Location: Meeting Room 615, Sixth Level, Washington State Convention & Trade Center

National Botball 2001 Tournament

No, the graduate students haven’t gotten younger! IJCAI-01 and AAAI are pleased to host the National Botball Tournament, featuring top robots built by middle and high school students from across the country. Botball is a game in which robots attempt to achieve a specified goal, in an exciting head to head, double elimination tournament.

The goal of Botball is to get middle and high school students involved in the creative side of technology - to get our upcoming workforce excited about technology, robotics, and AI. Botball involves embodied agent computer programming (in C), mechanical design, science, math, and teamwork.

In this year’s tournament, teams either play the black ball or white ball side. The challenge is to score points by moving your colored ping pong balls from inside tubes onto the top of pylons.

We will start out with a seeding round, at which time robots run unopposed - a prime opportunity to show off their best moves. During the regular one-on-one matches, teams are notified three minutes before the round as to which side they will play. Robots are required to start by themselves and shut down after 90 seconds.

Last year’s tournament featured a final match between the undefeated homeschool team from Norman, Oklahoma and the seeding round winner from Paxon School for Advanced Studies in Jacksonville, Florida. The stunning finals match had the crowds cheering, and we expect even more excitement this year.

These robots were completely designed, built, and programmed by students from a kit of over 2000 parts. The Botball contest will be open to IJCAI-01 attendees during regular exhibit hours.

Botball Participants

Andrew P. Hill High School
Andrew P. Hill High School Team 2
Broad Run High School
Capitol Hill High School
Cary Middle School Team 1
Cary Middle School Team 2
Episcopal High School of Houston
Episcopal High School of Jacksonville
E.H. Petersen Academies of Technology
Fletcher High School Team 1
Gabrielino High School Team 1
Glen Burnie High School
Gunderson High School
Hampton High School
Hillsdale High School
Holy Trinity Episcopal Middle School 1
Holy Trinity Episcopal Middle School 2
Independence High School Team 1
Jordan High School Team 1
MAST Academy Team 1
Middlesex School
Norman High School Team 1
Norman Homeschool
Oliver Springs High School Team 1
Oliver Springs High School Team 2
Rockville
Rose-Hulman Explore Engineering
Sallisaw High School Team 1
Sallisaw High School Team 2
Schiller Classical Academy
South Vermillion Middle School
Thomas Edison High School Team 1
Thomas Edison High School Team 2
Thomas Edison High School Team 3
Thomas Jefferson High School Team 1
Thomas Jefferson High School Team 2
Thomas Jefferson High School Team 3
Tilden Middle School Team 1
Tilden Middle School Team 3
U.S. Grant High School
W.C. Overfelt High School Team 1
W.C. Overfelt High School Team 2
W.T. White High School
Wakefield High School
Wellesley High School Team 1
Wellesley High School Team 2
Woodrow Wilson Middle School
RoboCup 2001

A discounted registration fee to the RoboCup 2001 Symposium will be offered to all IJCAI-01 registrants. However, attendance at the RoboCup 2001 Competition is free to all IJCAI-01 registrants.

RoboCup is a yearly event featuring an International Symposium, Competitions, and Exhibits that has gathered many researchers interested in multiagent and multirobot systems. In 2001, RoboCup will be held for the first time in the United States, being collocated with IJCAI-01. RoboCup will be held in Exhibit Hall 4A on the fourth level of the Washington State Convention & Trade Center.

RoboCup 2001 will include:

- An International Research Symposium for the wide research community interested in the concrete challenges of multirobot and multiagent systems and their applications.
- Several competitions that offer different leagues in two tasks: (i) soccer, as traditionally pursued in RoboCup since 1996, and (ii) search and rescue. This year will include the first RoboCup rescue simulation competition, and, jointly with AAAI, the RoboCup/AAAI rescue robot competition. Attendance at the RoboCup 2001 competition is free to all IJCAI-01 registrants.
- RoboCup Junior that aims at middle and high school students with competitions of two on two soccer robots, robot dancing, and robot rescue.
- Exhibits, jointly with AAAI, of new robots and tasks, including demonstrations of humanoid robots.

The RoboCup 2001 competitions provide several technical platforms, including soccer and rescue simulations for teams of fully distributed software agents; small robots with onboard vision and computer control allowed; and fully autonomous middle-size robots and Sony legged robots. In addition to advances in perception, reasoning, and multiagent approaches, participants in the robot leagues also contribute new mechanical designs of robots. RoboCup 2001 welcomes attendance and participation by IJCAI-01 research colleagues.

**General Chair:**
Manuela Veloso, Carnegie Mellon University

**Associate Chair for Robotics Events:**
Tucker Balch, Carnegie Mellon University

**Associate Chair for Simulation Events:**
Peter Stone, AT&T Labs — Research

**Assistant:**
Debbie Cavlovich, Carnegie Mellon University

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**ROBOCUP 2001 SCHEDULE**

<table>
<thead>
<tr>
<th>Thursday, August 2</th>
<th>Tuesday, August 7</th>
<th>Thursday, August 9</th>
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<tbody>
<tr>
<td><strong>RoboCup Welcome Reception</strong>&lt;br&gt;Metropolitan Ballroom, Sheraton Seattle Hotel</td>
<td><strong>RoboCup Junior Competition</strong></td>
<td><strong>Quarter-Final, Semi-Finals</strong></td>
</tr>
<tr>
<td><strong>Round Robin Competition</strong></td>
<td><strong>RoboCup International Symposium</strong>&lt;br&gt;Ballroom 6A</td>
<td><strong>RoboCup Junior Workshop</strong>&lt;br&gt;Ballroom 6A</td>
</tr>
<tr>
<td><strong>Saturday, August 4</strong></td>
<td><strong>Symposium Cocktail Reception / Poster Session</strong>&lt;br&gt;Ballroom 6A</td>
<td><strong>RoboCup Banquet</strong>&lt;br&gt;Elliott Grand Hyatt Seattle</td>
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<tr>
<td><strong>Round Robin Competition</strong></td>
<td><strong>Wednesday, August 8</strong></td>
<td><strong>Friday, August 10</strong></td>
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<tr>
<td><strong>Sunday, August 5</strong></td>
<td><strong>RoboCup Junior Finals</strong></td>
<td><strong>Semi-Finals, Finals</strong></td>
</tr>
<tr>
<td><strong>Round Robin Competition</strong></td>
<td><strong>RoboCup International Symposium</strong>&lt;br&gt;Ballroom 6A</td>
<td><strong>Awards Ceremony &amp; Farewell</strong></td>
</tr>
<tr>
<td><strong>Monday, August 6</strong></td>
<td><strong>RoboCup/AAAI Robot Rescue Finals</strong>&lt;br&gt;Exhibit Hall 4B</td>
<td></td>
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</tbody>
</table>
Conference registration will take place in the Exhibition Hall Lobby on the fourth level of the Washington State Convention & Trade Center, beginning Friday, August 3. Registration hours are:

- Friday, August 3: 1:00 PM – 6:00 PM
- Saturday, August 4: 7:30 AM – 6:00 PM
- Sunday, August 5: 7:30 AM – 6:00 PM
- Monday, August 6: 7:30 AM – 6:00 PM
- Tuesday, August 7: 8:00 AM – 6:00 PM
- Wednesday, August 8: 8:00 AM – 6:00 PM
- Thursday, August 9: 8:00 AM – 6:00 PM
- Friday, August 10: 8:00 AM – 12:00 PM

Only checks drawn on US banks, VISA, MasterCard, American Express, government purchase orders, traveler’s checks, and US currency will be accepted. We cannot accept foreign currency or checks drawn on foreign banks.

**Registration Fees**

Your IJCAI-01 program registration includes admission to all technical paper sessions, invited talks and panels, the IJCAI-01 Exhibition, including the RoboCup-2001 Competition, the IJCAI-01 opening ceremony and reception, IAAI-01, the IJCAI-01 conference proceedings, and the IAAI-01 conference proceedings. Students must present proof of full-time student status to qualify for student rate. Onsite technical paper fees are:

- Onsite Regular: $725
- Onsite Student: $225

**Tutorial Program**

**AUGUST 5 – 6**

Registrants for the IJCAI-01 technical program are encouraged to participate in the tutorial program at the fees listed below. Prices quoted are per tutorial. Your tutorial program registration includes admittance to one tutorial, the IJCAI-01 Exhibition, and one tutorial syllabus. Prices quoted are per tutorial. A maximum of four may be taken due to parallel schedules. Onsite tutorial fees are:

- Onsite Regular: $220
- Onsite Student: $100

It is also possible to attend tutorials without registering for the IJCAI technical program at the following fees:

- Tutorial Only Regular: $475
- Tutorial Only Student: $200

**Workshop Program**

**AUGUST 4 – 6**

Workshop registration is limited to those active participants determined by the organizer prior to the conference. All IJCAI-01 workshop participants must be registered for the IJCAI-01 technical program. An additional workshop fee is required for each workshop attended. Registration onsite for a workshop is possible with the prior permission of the corresponding workshop organizer.

Your workshop registration includes admittance to one workshop and the working notes for that workshop (if available).

- Workshop Fee: $70

**IJCAI-01 Banquet**

**AUGUST 8**

The fee for the banquet at Tillicum Village is $75. For more information, see page 14.

**Accompanying Persons**

Accompanying persons are entitled to attend the Official Opening Ceremony, the Opening Reception, and visit the IJCAI-01 Exhibition.

- Accompanying Person Fee: $75

**Exhibition**

Admission to the exhibition hall programs is included in all other types of registration. For individuals interested in admittance to the exhibit hall only, an exhibits only registration is available in onsite registration. Exhibit hall programs include vendor exhibits, the AAAI Mobile Robot Competition and Exhibition, RoboCup 2001, and the High School National Bobtail Tournament.

- **One Day:**
  - $10/adult
  - $5/child
  - $25/family

- **Two or More Days:**
  - $20/adult
  - $10/child
  - $40/family

**Seattle: The Emerald City**

Built on seven hills, with unmatched mountain and water views, the wealth of natural beauty in and around Seattle astonishes first-time visitors. Bounded on the west by Puget Sound, an inland arm of the Pacific Ocean, and on the east by Lake Washington, the city occupies a north-south corridor, slender at the waist, with hundreds of miles of salt and freshwater shoreline literally touching the city’s boundaries. The Cascade mountain range is east of the city, and the Olympic Mountains are to the west. Thousands of square miles of evergreen forest extend out from the city, and, on a clear day, the views of mountains and water are spectacular.

Seattle is a major port, transportation hub, and manufacturing center and the principal city of Washington State and of the Pacific Northwest. Some of Seattle’s best-known attractions are the Space Needle, Pike Place Market, Pioneer Square, Woodland Park Zoo, Waterfront, Ballard Locks, and the new Experience Music Project. These urban landmarks are clustered in pedestrian-scale sections, best savored on foot. Central business district buses are free, and the Monorail speeds quickly between downtown and the Seattle Center (site of both the Space Needle and the Experience Music Project).

**Excursions**

Optional tours are available, based on availability. You may purchase tickets on-site at the Seattle V.I.P. Services Tour Registration Desk. There will be an additional $3.00 fee for on-site ticket sales. All tours depart promptly from the Convention Center.

**Tours**

- **Friday, August 3:** 7:00 AM – 9:45 PM
  - Independent Victoria Day Trip
  - (No onsite reservations)

- **Tuesday, August 7:** 6:00 PM – 9:00 PM
  - Seattle City Highlights by Night

- **Saturday, August 11:** 8:00 AM – 6:00 PM
  - Mt. Rainier Tour
General Information

Admission
Each conference attendee will receive a name badge upon registration. This badge is required for admittance to the technical, tutorial, exhibit, IJCAI, RoboCup, or workshop programs. Smoking, drinking, and eating are not allowed in any of the technical, tutorial, workshop, IJCAI, RoboCup, or exhibit sessions.

Administrative Offices
The IJCAI offices will be in room 504 on the fifth level of the Washington State Convention and Trade Center. The IJCAI-01 administrative office will be in room 505.

Banking
Banks in downtown Seattle are usually open Monday–Friday from 9:00 AM – 5:00 PM. Some banks are open Saturdays from 9:00 AM - 4:00 PM. Automatic teller machines are available throughout town.

Currency
The American Dollar, with one dollar equaling 100 cents. Approximate rates of exchange in the beginning of July were:

<table>
<thead>
<tr>
<th>Currency</th>
<th>Exchange Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>British Pounds</td>
<td>$1.00 = .71</td>
</tr>
<tr>
<td>Canadian Dollars</td>
<td>$1.00 = 1.51</td>
</tr>
<tr>
<td>French Francs</td>
<td>$1.00 = 7.73</td>
</tr>
<tr>
<td>German Marks</td>
<td>$1.00 = 2.30</td>
</tr>
<tr>
<td>Japanese Yen</td>
<td>$1.00 = 1.24</td>
</tr>
<tr>
<td>Euros</td>
<td>$1.00 = 1.17</td>
</tr>
</tbody>
</table>

Career Information
A bulletin board for job opportunities in the artificial intelligence industry will be made available in the registration area on the fourth level of the Washington State Convention & Trade Center. Attendees are welcome to post job descriptions of openings at their company or institution.

Child Care
Babysitting and childcare services are available from Best Sitters Incorporated. Rates (at press time) are $54.00 for the first four hours (four-hour minimum), and $10 for each additional hour. Parking is $6.00 and any meals must be paid by the individual. Best Sitters Inc. can be reached directly at (425) 455-5533 or through the Sheraton Seattle Concierge at (206) 621-9000. This information is for your convenience, and does not represent an endorsement of Best Sitters Incorporated by IJCAI-01 sponsors.

Copy Services
Copy service is available at Kinko’s on the first level of the Washington State Convention & Trade Center. Kinko’s is open 24 hours a day.

Handicapped Facilities
The Washington State Convention & Trade Center and the Sheraton Seattle Hotel are equipped with handicapped facilities.

Housing
For information regarding hotel reservations, please contact the hotels directly. For student housing, please contact the University of Washington Conference Services at 206-543-7634.

Information Desk
An information desk and message board will be staffed during registration hours, Saturday – Friday, August 4 – 10. It is located near the registration area on the fourth level of the Washington State Convention & Trade Center.

Internet Room
Internet access will be provided in room 614 on the sixth level of the convention center. The room will be open from 8:00 AM - 6:00 PM, August 4-9 and 8:00 AM - 12:00 PM, August 10. As a courtesy, please limit your access time to 5-10 minutes if others are waiting to use the service.

List of Attendees
A list of preregistered attendees of the conference will be available for review at the IJCAI-01 registration area on the fourth level of the Washington State Convention & Trade Center. Attendee lists will not be distributed.

Message Center
See Information Desk.

Parking
Parking is available at the Washington State Convention & Trade Center. The rates are $4.00 for the first hour and $1.50 for each additional hour. The cost is $10.00 for 8 hours and $11.00 for 8-12 hours.

Post Office
Shipping services are available in Kinko’s on the first level of the Washington State Convention & Trade Center. Kinko’s is open 24 hours a day.

Printed Materials
Display tables for the distribution of promotional and informational materials of interest to conference attendees will be located in the registration area on the fourth level of the Washington State Convention & Trade Center.

Press
All members of the media are requested to register in the Press Room, on the third level of the Washington State Convention & Trade Center in Meeting Room 309. Press badges will only be issued to individuals with approved credentials. The Press Room will be open during the following hours:

- Friday, August 3 – Thursday, August 9
  8:00 AM – 5:00 PM
- Friday, August 10
  8:00 AM – 12:00 PM

An IJCAI-01 volunteer will be on duty during press room hours to assist the members of the press and media.

Proceedings
Each registrant for the IJCAI-01 technical program and for IAAI-01 will receive a ticket redeemable for one copy of each of the conference proceedings. During registration hours on Saturday, August 4-Monday, August 6, and on Tuesday, August 7 until 10:00 AM, proceedings tickets can be redeemed at the Proceedings counter, located in the registration area. After 10:00 AM on Tuesday, the IJCAI-01 Proceedings ticket may be redeemed at the Morgan Kaufmann Publishers booth #213, located in Exhibit Hall 4B, during exhibit hours. The IAAI-01 proceedings tickets can be redeemed at onsite registration.

The IJCAI-01 Proceedings can also be redeemed by mailing the ticket with your name, shipping address, e-mail, and postage payment to:

Morgan Kaufmann Publishers
340 Pine Street, Sixth Floor
San Francisco, CA 94104, USA

The IAAI-01 Proceedings may also be redeemed by mailing the ticket with your name, shipping address, and postage payment to:

AAAI Press
445 Burgess Drive
Menlo Park, CA 94025 USA

Extra proceedings may be purchased at the conference site at the above locations. Thursday, August 9 will be the last day to redeem your tickets and purchase extra copies of the IJCAI-01 Proceedings. For shipping services, see Post Office.

Quiet Room
A “quiet room” has been designated in meeting room 204 on the second level of the Washington State Convention & Trade Center for quiet contemplation, meditation or private prayer. The hours are 9:00 AM – 6:00 PM Saturday, August 4 – Wednesday, August 8.
General Information

Recording
No audio or video recording is allowed in the tutorial rooms. Audiotapes of the plenary sessions, invited talks and panels, and the IAAI sessions will be for sale on the sixth level of the Washington State Convention & Trade Center. A representative from Audio Archives will be available to take your order during registration hours, beginning on Tuesday, August 7. Order forms are included with registration materials. Tapes may also be ordered by mail or phone from:
Audio Archives International, Inc.
3043 Foothill Blvd., Suite #2
La Crescenta, CA 91214
Ph: (818) 957-0874
Fx (818) 957-0876
email audioarc@flash.net
800-747-8069

Restaurants
Lunches are not included in the registration fee. Coffee and tea will be served mornings and afternoons at several stations near the conference rooms. There are many restaurants (fast food, economy and luxury class) near the Washington State Convention and Trade Center, including several outlets in the building.

Restaurant Category

<table>
<thead>
<tr>
<th>Category</th>
<th>Breakfast</th>
<th>Lunch</th>
<th>Dinner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast Food</td>
<td>$3-4</td>
<td>$5-7</td>
<td>$8-10</td>
</tr>
<tr>
<td>Economy</td>
<td>$5</td>
<td>$8-12</td>
<td>$10-20</td>
</tr>
<tr>
<td>Deluxe</td>
<td>$15-25</td>
<td>$15-35</td>
<td>$25-50</td>
</tr>
</tbody>
</table>

Speaker Ready Room
The Speaker Ready Room will be located in Meeting Room 605 on the sixth level of the Washington State Convention & Trade Center. This room has audiovisual equipment to assist speakers with their presentations. It is important that speakers visit this room to organize their materials. The room will be open 8:00 AM – 5:00 PM, Saturday, August 4 – Thursday, August 9, and 8:00 AM – 12:00 PM, Friday, August 10.

Invited Speakers are asked to come to Meeting Room 605 one-day prior to their speech. Representatives from Audio Visual Headquarters will be available from 9:00 AM – 5:00 PM, Saturday, August 4 – Thursday, August 9 and 9:00 AM – 12:00 PM, Friday, August 10 to confirm your audiovisual needs, and assist with the preparation of your materials, if necessary.

Taxes
The current sales tax in Seattle, Washington is 8.6%.

Telephones
Public telephones for domestic and international calls are located throughout the Washington State Convention & Trade Center on all levels except the second.

Tipping
In general, a tip of 15-20 percent is given to waiters, waitresses, hairdressers, taxi drivers, etc. Bellhops, doormen, porters, etc., at hotels, airports and railway stations are generally paid $1.00 per item of luggage.

Shirts
IJCAI-01 shirts will be for sale during registration hours at the registration desk, on the fourth level of the Washington State Convention & Trade Center. Supplies are limited.

Transportation
The following information is the best available at press time. Please confirm fares when making reservations. The Washington State Convention & Trade Center is located on Interstate 5 and exit 165.

Airport Connections
The primary methods of transportation from the Seattle-Tacoma airport are taxi and shuttle. Typical fares are listed below. For additional information about shuttles, please contact your hotel directly.

Taxi
Taxis are available at Seattle-Tacoma International Airport. The fare from the airport to downtown Seattle is approximately $30.00 each way.

Shuttle
Gray Line of Seattle
206-624-5077
Seattle-Tacoma Airport to downtown Seattle
Fare: $8.00; $13.00 round trip

Rail
The Amtrak Station is located at Third and Jackson Streets, approximately twelve blocks from the Washington State Convention & Trade Center. For Amtrak reservations or information, call 1-800-USA RAIL or 510-238-4369

Metro Transit
Metro operates bus service throughout Seattle and King County. Schedules and routes are listed at each bus stop and can also be found at the Visitor Center in the Washington State Convention & Trade Center. Metro Transit is free within the downtown Seattle area. For information call (206) 553-3000

Tutorial Syllabi
Extra copies of the IJCAI-01 tutorial syllabi will be available for purchase in the IJCAI-01 onsite registration area on the fourth level of the Washington State Convention & Trade Center, beginning Monday, August 6. Supplies are limited. Preregistration tutorial syllabi tickets must be redeemed in the tutorial rooms.

Visitor Information
Visitor information is available in the Washington State Convention & Trade Center. This one-stop center provides visitors with tourist information and services such as travel planning, information on activities, and attractions.

800 Convention Place
Washington State Convention & Trade Center
Lobby Level
(206) 461-5840

Volunteer Room
The volunteer room is located in meeting room 302 on the third level of the Washington State Convention & Trade Center. Hours are 8:00 AM – 5:00 PM, Saturday, August 4 – Thursday, August 9 and 8:00 AM – 12:00 PM, Friday, August 10. Extra volunteer instructions and schedules will be available. All volunteers should check in with Colleen Boyce, AAAI Volunteer Coordinator, in the registration area prior to their shifts. The volunteer meeting will be held Thursday, August 2 at 4:00 PM in Meeting Room 307.

Disclaimer
In offering American Airlines, Best Sitters Inc., GES, Hertz Rent A Car, Hilton Seattle, The Paramount Hotel, Sheraton Seattle Hotel & Towers, Southwest Airlines, Stellar Access Inc., United Airlines, University of Washington, Washington State Convention & Trade Center, WestCoast Vance Hotel and all other service providers, (hereinafter referred to as “Supplier(s)” for the International Joint Conference on Artificial Intelligence, the Innovative Applications Conference, RoboCup 2001, and the Conference on Uncertainty in Artificial Intelligence, IJCAI-01 sponsors act only in the capacity of agent for the Suppliers which are the providers of the service. Because the IJCAI-01 sponsors have no control over the personnel, equipment or operations of providers of accommodations or other services included as part of the IJCAI-01, IAAI-01, RoboCup 2001 or UAI 2001 program, IJCAI-01 sponsors assume 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 the IJCAI-01 sponsors.
Convention Center Meeting Rooms

Meeting Rooms
Level 6
Sheraton Meeting Rooms

Sheraton Seattle Hotel & Towers
2nd Floor Ballrooms
IJCAI-03
Acapulco, Mexico
August 9 – 15, 2003

IJCAI-03, the Eighteenth International Joint Conference on Artificial Intelligence, will be held August 9-15, 2003 in Acapulco, Mexico. It is sponsored by the International Joint Conferences on Artificial Intelligence, Inc. (IJCAII), and cosponsored by the Mexican Society for Artificial Intelligence, and the American Association for Artificial Intelligence. Anthony Cohn of the University of Leeds will be the IJCAI-03 Conference Chair, Georg Gottlob of Vienna University of Technology will be the IJCAI-03 Program Chair, and Francisco Cantu of the Monterrey Institute of Technology will be the Local Arrangements Chair.

For further information, contact one of the following:

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