



**AAAI 2002**

**Fall Symposium Series**  
**Registration Brochure**

*November 15-17, 2002*

*Sea Crest Oceanfront Conference Center*  
*North Falmouth, Massachusetts USA*

*Sponsored by the*  
American Association for Artificial Intelligence  
445 Burgess Drive, Menlo Park, CA 94025  
(650) 328-3123  
fss@aaai.org • [www.aaai.org/Symposia/Fall/](http://www.aaai.org/Symposia/Fall/)

AAAI is pleased to present its 2002 Fall Symposium Series, to be held Friday through Sunday, November 15-17, 2002 at the Sea Crest Conference Center in North Falmouth, Massachusetts. The topics of the five symposia in the 2002 Fall Symposia Series are:

- Chance Discovery: The Discovery and Management of Chance Events
- Etiquette for Human-Computer Work
- Human-Robot Interaction
- Intent Inference for Users, Teams, and Adversaries
- Personalized Agents

The highlights of each symposium will be presented at a special plenary session. Working notes will be prepared and distributed to participants in each symposium, but will not otherwise be available unless published as an AAAI Technical Report or edited collection.

Each symposium will have limited attendance. Participants will be expected to attend a single symposium throughout the symposium series. In addition to participants selected by the program committee of the symposia, a limited number of other interested parties will be allowed to register in each symposium on a first-come, first-served basis. To register, please fill out the registration form, and send it along with payment to:

2002 Fall Symposium Series  
AAAI  
445 Burgess Drive  
Menlo Park, CA 94025-3442  
Telephone: (650) 328-3123\*  
Fax: (650) 321-4457\*  
Email: [fss@aaai.org](mailto:fss@aaai.org)\*

\*Credit card orders only, please. Please note that there are security issues involved with the transmittal of credit card information over the internet. AAAI will not be held liable for any misuse of your credit card information during its transmittal to AAAI.

This document is also available at <http://www.aaai.org/Symposia/symposia.html>.

### Tentative Program Schedule (*subject to change*)

#### Friday, November 15

9:00 AM – 5:30 PM: *Symposia sessions*  
6:00 PM – 7:00 PM: *Reception*

#### Saturday, November 16

9:00 AM – 5:30 PM: *Symposia sessions*  
6:00 PM – 7:00 PM: *Plenary session*

#### Sunday, November 17

9:00 AM – 12:30 PM: *Symposia sessions*

Registration will be located in the lobby of the conference center.

# Chance Discovery: The Discovery and Management of Chance Events

Chance events are rare or novel events with potentially significant consequences for decision-making, i.e., events to be conceived as a risk or an opportunity. This symposium will be devoted to the following questions: (1) How may we predict, identify or explain chance events and their consequences? (“chance discovery”) and (2) How may we assess, prepare for or manage them? (“chance management”).

An agent—human, robot or software agent—engaged in planning needs to adopt a view of the future. In order to decide goals, and to decide the best sequence of actions to achieve these goals, how can an agent or agents discover rare or novel events and forecast their consequences? The consequences of such events may significantly impede or facilitate the achievement of agents' goals, but their unlikeliness makes them difficult to predict or explain by methods that use historical data or pattern-matching.

One can think of chance discovery as a search of maximum or minimum of a surface whose shape is unknown, in a space whose dimensions may also be unknown. The focus on the agent and its environment as one, interacting, system can be another point. This symposium will seek to bring together members of the AI community with people from various relevant domains listed below, to create and share approaches to chance discovery/management. Topics of interest

include, but are not restricted to:

- Agent systems and planning with emergent behaviors
- Human-computer or agent-environment interactions
- Complex systems
- WWW awareness
- Knowledge discovery and data mining
- Statistics and data analysis
- Information retrieval
- Risk analysis, prediction, assessment and management
- Marketing theory and demand forecasting for innovative products
- Opportunity identification in business
- Social trends analysis
- Social psychology
- Natural disaster prediction and management
- Management and decision sciences
- Operations research
- Philosophy of forecasting and risk
- Hypothesis discovery in scientific theories

For updated information about this symposium, including the program with the newest timetable, please see [www.miv.t.u-tokyo.ac.jp/~matumura/FSS02/](http://www.miv.t.u-tokyo.ac.jp/~matumura/FSS02/)

## Organizing Committee

Yukio Ohsawa, University of Tsukuba (osawa@gssm.otsuka.tsukuba.ac.jp); Simon Parsons, University of Liverpool (s.d.parsons@csc.liv.ac.uk); Peter McBurney, University of Liverpool (p.j.mcburney@csc.liv.ac.uk)

# Etiquette for Human-Computer Work

As we come to rely on the increasing capabilities of computers, it becomes critical to define roles and relationships that both human and computer can live with. The rules governing such relationships are etiquette rules. By “etiquette” we mean the defined roles, acceptable behaviors and interaction moves of human and intelligent agent participants in a common setting. Etiquette creates an informal “social” contract, allowing expectations to be formed about the behavior of other parties. Etiquette is not (just) about politeness and nicety; it is also about expectations, efficiency, safety, and trust.

Our focus will be on etiquette in human-computer work settings — how to generate and embody it, how to measure its effects, how to design effective etiquettes for various domains, etc. As such, we hope to bridge very divergent research populations. We expect participants from the human factors and automation communities interested in building real world, adaptive automation and information systems where human control and safety are critical, as well as participants from CS and HCI who have traditionally built desktop systems where adaptiveness and aiding are equally important but ease of use, attractiveness, and even entertainment values can be higher and the costs of error lower. We also invite researchers in UI design, personified interfaces and embodied agents, natural language, computer supported

cooperative work, ubiquitous computing, and machine learning. Psychologists and sociologists with interests in trust, effective teamwork, and etiquette are also welcome.

This symposium will seek to define the notion of etiquette for human-computer relationships, to identify its similarities and differences to human-human relationships, and to provide a variety of examples of etiquettes that do and don't contribute to human-computer work. The agenda will include an invited presentation from an “etiquette expert” — Jean Comeau, an instructor, author and broadcaster on the topic of business and diplomatic etiquette and director of the Etiquette School of Boston, summaries of the various contributing fields by the organizing committee, many presentations of prior or current work, and panels/discussions on (1) defining etiquette and its role in HCI design, (2) brainstorming about etiquette failures and potential fixes in current systems such as mode control problems in flight management systems and Microsoft's venture into personified agents—the Office Assistants™.

## Organizing Committee

Christopher A. Miller (Chair), Smart Information Flow Technologies (cmiller@SIFTech.com); Timothy Bickmore, MIT Media Lab (bickmore@media.mit.edu); Clifford Nass, Stanford University (nass@leland.stanford.edu); Raja Parasuraman, The Catholic University of America, (parasuraman@cua.edu)

# Human-Robot Interaction

While we talk about “autonomous” robots, we realize that for virtually all of the future applications for autonomous vehicles, humans will always be in the loop at some level. The level of interaction can vary — for example, a tactical mobile robot might have regular and frequent interactions with a human, while a planetary exploration robot might take supervisory instructions only occasionally — yet the human is still part of the system. Even more, many envision a tighter collaboration between future intelligent vehicles and humans where the interactions are more mixed initiative, with all parties contributing according to their expertise.

In much current research, we have concentrated on robotic architectures and then put user interfaces on as means of monitoring and controlling the robotic platform. To develop a more synergistic system it is necessary to develop robotic architectures that accommodate the human in the loop from the beginning. However, this architecture needs to be designed to support dynamic autonomy. It should support human intervention when needed as well as supporting more autonomous behavior when the robot is capable of such actions.

This symposium will bring together researchers interested in human-robot interactions and interfaces. We expect this to be a highly interdisciplinary session with researchers in artificial intelligence, robotics, cognitive science, human-computer interfaces,

linguistics — even ethics. Topics of interest include:

- Dynamic autonomy and mixed initiative
- One human interacting with teams of robots; multiple humans interacting with one or more robots; hand-off issues
- Multi-modal interfaces — combining speech, gestures and other modes of communication
- Social issues of robots in human environments
- Role of cognitive science
- Architectures for human-robot interaction
- Learning and adaptation in human-robot teams
- Performance metrics for human-robot interaction; evaluation methodologies
- Applications: UCAVS, Micro-air vehicles, UUVs, UGVs, planetary exploration, assembly in space, clean up, urban search and rescue

The symposium will include short presentations intermixed with working groups and panel sessions. One panel session will include government representatives discussing application areas and funding.

For more information consult [www.aic.nrl.navy.mil/~schultz/fss02-hri](http://www.aic.nrl.navy.mil/~schultz/fss02-hri)

## Organizing Committee

Alan C. Schultz, NRL; Jean Scholtz, NIST; Michael Goodrich, BYU; Robin Murphy, USF

# Intent Inference for Users, Teams, and Adversaries

Advances in AI have enabled decision support systems to assume substantive roles in supporting human operators of complex systems. As such systems become more capable of autonomous performance, they must engage more fully with human operators in negotiating task assignments, anticipating near-term needs, and proactively providing information, analysis, and alerts.

As this need for such sophistication extends to systems with multiple operators, research into team and adversarial intent inference becomes critical. The notion of a team or crew is central to applications involving complex systems and organizations ranging from transportation systems to command and control centers. For adversarial intent inference, decision support for teams facing an intelligent opponent (hostile force) is limited without an understanding of the adversary's goals and actions. In response to this fast-emerging need, researchers are now focusing on team dynamics and workflow. From a socio-anthropological heritage come approaches to capturing workplace procedures and information flows; cognitive task analysis contributes tools for capturing process models; and principles of reasoning under uncertainty allow for such models to remain robust under the complex conditions typical of multiple operators of complex systems. More recently, collaborative agent research has opened new avenues in modeling and

implementing teams of cooperative agents, and “keyhole” approaches to non-intrusive observation of users’ promises to enable systems to reliably track users’ progress.

By bringing together researchers throughout the community, this symposium will help foster the emerging discipline of team intent inference and promote the development of intent-aware decision support for multi-operator complex systems.

Specific areas of interest include: (1) task analysis (cognitive and team); (2) task modeling (nonlinear and probabilistic); (3) plan recognition; and (4) interface agency. The symposium will present a survey of representative works in progress and foster a meaningful dialog to promote research agenda and collaboration along lines of shared interest. A presymposium discussion of “visions” will help set the stage for the on-site schedule, which will include invited presentations and breakout sessions that synthesize emerging concepts and approaches, assess application needs, and suggest areas for fruitful research.

## **Organizing Committee**

Eugene Santos Jr. (Chair), University of Connecticut (eugene@cse.uconn.edu); Benjamin Bell (Cochair) (benbell@alumni.upenn.edu)

# Personalized Agents

Although the term “agent” has come to mean many things, it perhaps has the most traction when identified with an anthropomorphized and autonomous program that acts as a personal assistant to a specific user (or set of users). In this model, the agent usually “lives” in a virtual world, may have access to data about its user, and is empowered to act on its user's behalf in a variety of computer-based tasks, including appointment scheduling, vetting messages, engaging in negotiation with other users, discovering items of interest, and even initiating contact with other users and agents.

This personalized agent has several qualities, including: (1) The agent is almost always “on,” working on the user's behalf even when the user is not present; (2) The agent must continually adapt over a longtime horizon to the user's changing needs; and (3) The agent is mostly focused on modeling the behavior and preferences of a specific individual or small group of individuals, rather than discovering large trends over aggregate data.

We believe that a key component to a successful personalized agent is learning from the user, both supervised and unsupervised. This symposium will focus on the unique issues that arise when developing adaptive learning methods for such agents. In particular, we are interested in several topics:

- Unusual or non-standard domains where learning agents have an impact
- Balancing the possibly competing individual interests of many different users
- Learning methods that directly address the sparse data problem
- Learning methods that handle distinct changes in a user's preferences
- Natural ways of teaching agents specific behaviors
- Benefits of learning agents over agents with fixed behavior
- Evaluation of the effectiveness of individual learning strategies (e.g., case-based, explanation-based, inductive, reinforcement learning), or multistrategy combinations
- Characterization of learning and adaptation methods in terms of modeling power, communication abilities, knowledge requirements and processing abilities of individual agents
- Agents learning by observing other agents
- Investigation of teacher-student relationships between agents and users
- User modeling

## Organizers

Peter Stone, Charles Isbell (isbell@isbell.org), and Gal Kaminka.

# Registration and General Information

**ALL ATTENDEES MUST PREREGISTER.** Each symposium has a limited attendance, with priority given to invited attendees. All accepted authors, symposium participants, and other invited attendees must register by September 20, 2002. After that period, registration will be opened up to the general membership of AAAI and other interested parties. All registrations must be postmarked by October 18, 2002.

The conference registration fee includes admission to one symposium, one copy of the working notes from the symposium, a continental breakfast each morning, mid-morning coffee breaks, lunch Friday and Saturday, afternoon coffee breaks with a light snack Friday and Saturday, and the opening reception.

Checks (drawn on US bank) or international money orders should be made out to AAAI. VISA, MasterCard and American Express are also accepted. Please fill out the attached registration form and mail it with your fee to:

AAAI 2002 Fall Symposium Series  
445 Burgess Drive  
Menlo Park, CA 94025

If you are paying by credit card, you may e-mail the form to [fss@aaai.org](mailto:fss@aaai.org) or fax it to (650) 321-4457. Registration forms are also available on AAAI's web page: [www.aaai.org/Symposia/symposia.html](http://www.aaai.org/Symposia/symposia.html).

*Please note: All refund requests must be in writing and postmarked by October 25, 2002. No refunds will*

be granted after this date. A \$50.00 processing fee will be levied on all refunds granted.

When you arrive at Sea Crest, please pick up your complete registration packet at the registration area in the lobby of the Conference center.

Registration hours will be:

**Friday, November 15**

8:00 AM - 5:00 PM

**Saturday, November 16**

8:30 AM - 5:00 PM

**Sunday, November 17**

8:30 AM - 11:00 AM

## Accommodations

For your convenience, AAAI has reserved a block of rooms at Sea Crest. The rate is \$86.00 plus 9.7% tax for a single or double room. Symposium attendees must contact Sea Crest directly. Please request the group rate for AAAI's Fall Symposium Series when reserving your room. **The cutoff date for reservations is October 10, 2002.** Reservations after this date will be accepted based on availability at the negotiated group rate. All reservations must be secured by one night's deposit per room, via credit card or check. If an individual reservation is cancelled eight days or more prior to arrival, the deposit is refunded, less a \$10.00 service charge. If an individual reservation is cancelled seven days or less prior to arrival, or does not arrive on the specified dates, the reservation is cancelled for all nights, and the deposit will be forfeited.



Sea Crest Oceanfront  
Conference Center  
Old Silver Beach on Cape Cod  
350 Quaker Road  
North Falmouth, MA 02556-2943  
*Group Reservations:* 800-225-3110 or  
508-540-7602  
*Fax:* 508-540-7602

### **Air Transportation & Car Rental**

AAAI has selected Stellar Access, Inc. (SAI) as the official travel agency for this meeting. Call 800-929-4242 (Outside US and Canada dial: 858-451-8150) and request discounts for Event #2033, or visit [www.stellaraccess.com](http://www.stellaraccess.com), register if you are a first-time user, and refer to Group 428. If you book on-line, you will pay no transaction fee. You will receive the following discounts or the lowest available fares on any other carrier: United Airlines — save 5% off the lowest fares anytime and 10% off lowest fares with a 60-day advance purchase. All rules and restrictions apply. Offer good for travel Tuesday, November 12, 2002 – Wednesday, November 20, 2002. Discount car rentals with unlimited free mileage through Avis rental car have been negotiated for this event.

*Reservation hours:* M-F 6:30 AM – 5:00 PM Pacific Time. Call SAI at 800-929-4242. Outside US & Canada: 858-451-8150 / fax 858-547-1711. The following fees will apply to all reservations made through Stellar Access. Online: \$15.00 per ticket pur-

chased. Telephone (US and Canada): \$30.00 per ticket purchased. Telephone (Outside US and Canada): \$35.00 per reservation.

### **Parking**

Parking is available at the Sea Crest at no charge for the duration of your stay.

### **Arrival by Air**

The Sea Crest is approximately one hour and fifty minutes from T. F. Green Airport in Warwick, Rhode Island, and approximately one hour and forty minutes from Logan International Airport in Boston, Massachusetts.

There are frequent connecting flights to Hyannis from Boston, Newark, and New York City.

### **Ground Transportation**

This information is the best available at time of printing. Fares and routes change frequently. Please check by telephoning the appropriate numbers below for the most up-to-date information.

### **Transportation from Airport**

Sea Crest recommends Bonanza Bus, which provides regular transportation between Falmouth and Logan Airport in Boston, Massachusetts. The fare is \$22.00 one way and \$40.00 round trip. No reservations are necessary. Bonanza Bus stops at all Logan airport terminals, making eight round trips daily. Bonanza Bus may be contacted at 508-548-7588. Sea Crest does not recommend taking public

transportation from Rhode Island due to multiple stops and transfers.

**Taxi**

Taxis are readily available in Falmouth for transportation to Sea Crest. The approximate fare is \$18.00–20.00 one way.

**Arrival by Car**

Because of the location of the conference center, cars are recommended for convenience in accessing restaurants or attractions on Cape Cod.

*From Metropolitan Boston area:* Southeast Expressway to Route 3, take first exit on rotary at Sagamore Bridge to Route 6 West, take first exit at Bourne Bridge rotary to Route 28 (Falmouth and the Islands), to Bourne Bridge over Cape Cod Canal.

*From Points North and West of Boston:* Take Interstate 495 South, Route 25 South to Bourne Bridge over Cape Cod Canal.

*From Providence and New York:* Interstate 95 to Providence, Interstate 195 East from Providence to Route 25 South to Bourne Bridge over Cape Cod Canal.

*From Bourne Bridge and Cape Cod Canal:* Route 28 (Falmouth and the Islands) to Route 151 exit, left at bottom of exit ramp, left at traffic signals (Route 28A South) one mile to rotary, take first exit than 1 mile to Sea Crest.

**Disclaimer**

In offering the Sea Crest Conference Center, United Airlines, Avis Rental A Car, (hereinafter referred to as “Supplier”) and all other service providers for the AAAI Fall Symposium Series, the American Association for Artificial Intelligence acts only in the capacity of agent for the Supplier which is the provider of hotel rooms and transportation. Because the American Association for Artificial Intelligence has no control over the personnel, equipment or operations of providers of accommodations or other services included as part of the Symposium program, AAAI assumes no responsibility for and will not be liable for any personal delay, inconveniences or other damage suffered by symposium 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 Form 2002 AAAI Fall Symposium Series

**A**LL ATTENDEES MUST PREREGISTER  
Please complete in full and return to AAAI, postmarked by September 20, 2002 (invited attendees) or by October 18, 2002 (general registration). *Please print or type:*

First name \_\_\_\_\_ Last name \_\_\_\_\_

Company or Affiliation \_\_\_\_\_

Address \_\_\_\_\_ Home  or Business

City \_\_\_\_\_ State \_\_\_\_\_

Zip or postal code \_\_\_\_\_ Country \_\_\_\_\_

Daytime telephone \_\_\_\_\_ E-mail address \_\_\_\_\_

### Symposium

*(Please check only one)*

1. Chance Discovery: The Discovery and Management of Chance Events

2. Etiquette for Human-Computer Work

3. Human-Robot Interaction

4. Intent Inference for Users, Teams, and Adversaries

5. Personalized Agents

### Fee

Member: \$ 285.00       Nonmember: \$ 365.00

Student Member \$ 115.00     Nonmember student: \$ 170.00

*(Students must send legible proof of full-time student status.)*

TOTAL FEE *(Please enter correct amount.)*      \$ \_\_\_\_\_

### Method of Payment

All e-mail and fax registrations must be accompanied by credit card information.

Prepayment is required. No purchase orders will be accepted. *(Please circle one)*

AMERICAN EXPRESS      MASTERCARD      VISA      CHECK      MONEY ORDER

Credit card number \_\_\_\_\_ Expiration date \_\_\_\_\_

Name (as it appears on card) \_\_\_\_\_

Signature \_\_\_\_\_

Thank you for your registration! Please mail completed form with your payment to:

AAAI Fall Symposium Series • 445 Burgess Drive • Menlo Park, CA 94025 or fax with credit card information to 650-321-4457.

**Please Note:** Registration cannot be processed if information is incomplete or illegible. Requests for refunds must be received in writing by October 25, 2002. No refunds will be granted after this date. A \$50.00 processing fee will be levied on all refunds granted.

### For Office Use Only

Check Number \_\_\_\_\_ Amount \_\_\_\_\_ Received \_\_\_\_\_

