



*Call for Participation*

# 2009 AAAI Spring Symposium Series

March 23–25, 2009

Stanford University, Stanford, California

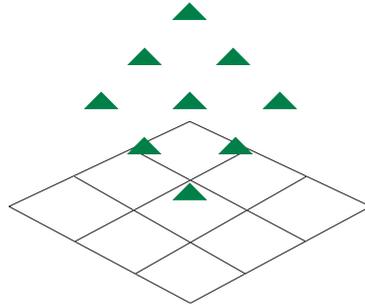
*Sponsored by the Association for the Advancement of Artificial Intelligence  
In cooperation with Stanford University*

[sss09@aaai.org](mailto:sss09@aaai.org)

[www.aaai.org/Symposia/Spring/](http://www.aaai.org/Symposia/Spring/)

## Deadlines Common to All Symposia

- ❑ October 3, 2008: Submission Deadline
- ❑ November 7, 2008: Notification of Acceptance
- ❑ January 16, 2009: Final Electronic Camera-Ready Copy Due



THE ASSOCIATION FOR the Advancement of Artificial Intelligence, in cooperation with Stanford University's Computer Science Department, is pleased to present its 2009 Spring Symposium Series, to be held Monday through Wednesday, March 23–25, 2009 at Stanford University in Stanford, California. The titles of the nine symposia in this symposium series are:

- Agents that Learn from Human Teachers
- Benchmarking of Qualitative Spatial and Temporal Reasoning Systems
- Experimental Design for Real-World Systems
- Human Behavior Modeling
- Intelligent Event Processing
- Intelligent Narrative Technologies II
- Learning by Reading and Learning to Read
- Social Semantic Web: Where Web 2.0 Meets Web 3.0
- Technosocial Predictive Analytics

An informal reception will be held on Monday, March 23. A general plenary session, in which the highlights of each symposium will be presented, will be held on Tuesday, March 24. Symposia will be limited to between forty and sixty participants. Each participant will be expected to attend a single symposium. Working notes or AAAI technical reports will be prepared and distributed to participants in each symposium. In addition to invited participants, a limited number of interested parties will be able to register in each symposium on a first-come, first-served basis. Registration information will be available in December. To obtain registration information, write to:

AAAI Spring Symposium Series  
445 Burgess Drive  
Menlo Park, CA 94025-3442 USA  
Voice: 650-328-3123  
Fax: 650-321-4457  
sss09@aaai.org  
[www.aaai.org/Symposia/Spring/](http://www.aaai.org/Symposia/Spring/)

## Submission Date

Submissions for the symposia are due on October 3, 2008. Notification of acceptance will be given by November 7, 2008. Material to be included in the working notes or technical report of the symposium must be received by January 16, 2009.

Please see the appropriate section in each symposium description for specific submission requirements.

## Author Formatting Instructions

Final electronic camera copy must be submitted in AAAI style. Templates, macros, and formatting instructions are located on the AAAI web site:

- [www.aaai.org/Publications/Author/](http://www.aaai.org/Publications/Author/)

Learning will be a key component to the successful application of intelligent agents in everyday human environments (physical and virtual). It will be impossible to give machines all of the knowledge and skills a priori that they will need to serve useful long term roles in our dynamic world. The ability for everyday users, not experts, to guide them easily will be key to their success. While recognizing that current machine learning (ML) techniques have had much success over the years, typical ML techniques have not been specifically designed for learning from nonexpert users and are generally not suited for it "out of the box."

This symposium aims to bring together a multidisciplinary group of researchers to discuss how we can enable agents to learn from real-time interaction with an everyday human partner, exploring the ways in which machine learning can take advantage of elements of humanlike social learning.

The goal of this meeting is to foster a collaborative dialog and bring multiple perspectives to bear on the challenges of building agents that learn from everyday human teachers. Particularly, we want to bring together (1) researchers focused on the machine learning problems of this scenario and (2) researchers focused on the interaction problems of this scenario, so they can inform each other's work.

## Topics

The symposium will include perspectives from artificial intelligence, machine learning, robotics, computer games, intelligent user interfaces, human-computer/robot interaction (HCI/HRI), and cognitive science. The program will cover a variety of topics at the intersection of machine learning and human computer/robot interaction, for example:

- How do everyday people approach the task of teaching machines?
- What mechanisms of human social learning will machine learning agents need?
- Are there machine learning algorithms that are more or less amenable to learning with nonexpert human teachers?
- What are proper evaluation metrics for social machine learning systems?
- What is the state of the art in human teachable systems?

- What are the grand challenges in building agents that learn from humans?

## Submissions

We welcome short and long papers, position statements, as well as panel proposals (indicating the names, affiliations, and e-mail addresses for all panelists). Please submit your paper of 2–8 pages in PDF AAAI submission format to the Learning From Humans submission site: [www.easychair.org/conferences?conf=aaaiss09lfh](http://www.easychair.org/conferences?conf=aaaiss09lfh).

Submissions will be judged on technical merit and on potential to generate discussion and create community collaboration. The organizers will prepare a technical report summarizing the symposium. Please direct any submission inquiries to [aaaiss09lfh@easychair.org](mailto:aaaiss09lfh@easychair.org).

## Organizing Committee

Andrea L. Thomaz, chair (Georgia Institute of Technology), Cynthia Breazeal (MIT Media Lab), Sonia Chernova (CMU), Dan Grollman (Brown University), Charles Isbell (Georgia Institute of Technology), Olufisayo Omojokun (Georgia Institute of Technology), Satinder Singh (University of Michigan).

## For More Information

For more information, see the supplementary symposium website at [www.cc.gatech.edu/AAAI-SS09-LFH](http://www.cc.gatech.edu/AAAI-SS09-LFH)

# Benchmarking of Qualitative Spatial and Temporal Reasoning Systems

Qualitative spatial and temporal reasoning, a subfield of AI that has evolved over the past 25 years, aims at the development of formalisms for representing spatial and temporal information, as typically communicated in human-machine interaction processes in spatial environments. With regard to applications, the symbolic languages and reasoning techniques in this field need to be tested against an integrated set of evaluation criteria known from computer and cognitive science.

The aim of the symposium is to underpin the development of theoretically well-founded and community-wide accepted evaluation standards and benchmarking problems for qualitative formalisms, reasoning techniques, and implemented reasoning systems. This includes the measures to compare different qualitative constraint formalisms in terms of cognitive adequacy, expressiveness, and computational efficiency; the development of a domain and problem specification language for benchmarking problems; the identification of significant benchmark domains and problem instances, and the creation of a problem repository; and the measures to evaluate the performance of reasoning systems.

The identification of benchmarking problems and the development of benchmark suites has had a significant impact on the advancement in different computer science and knowledge engineering domains (for example, AI planning, automated theorem proving, SAT, and CSP). We expect analogous benefits from benchmarking in the qualitative reasoning domain. In particular, the symposium will contribute to identify a graded set of challenges for future research and will push the development of qualitative reasoning methods and systems towards application-relevant problems.

## Format

The symposium program will include invited talks, a limited number of short presentations as well as a tool or poster demonstration session such that researchers in the field can present their current work on benchmarking of qualitative spatial and temporal reasoning systems, significant use cases for qualitative reasoning, and more general mid-term and long-term challenges in the field. Topics for

working group sessions include qualitative reasoners, language standards for calculus and problem instance specifications, application-driven benchmark cases, and measures for the cognitive adequacy of qualitative formalisms.

## Submissions

Interested participants should submit full papers (up to 6 pages in AAAI format), position papers (2 pages), or system description papers (2 pages) in PDF format to Bernhard Nebel at [aaai09bench-qsr@informatik.uni-freiburg.de](mailto:aaai09bench-qsr@informatik.uni-freiburg.de). Selected papers from the symposium will be published as an AAAI technical report.

## Organizing Committee

Bernhard Nebel (University of Freiburg, Germany), Anthony G. Cohn (University of Leeds, UK), Jean-Francois Condotta (Université d'Artois, CRIL-CNRS, France), Max J. Egenhofer (University of Maine, USA), Ulrich Furbach (University of Koblenz-Landau, Germany), Jochen Renz (Australian National University, Australia), Peter van Beek (University of Waterloo, Canada), Stefan Woelfl (University of Freiburg, Germany), Diedrich Wolter (University of Bremen, Germany)

## For More Information

For more information about the symposium, see the supplementary symposium web site at [qsr.informatik.uni-freiburg.de/aaai09-bench](http://qsr.informatik.uni-freiburg.de/aaai09-bench).

As more artificial intelligence (AI) research is fielded in real-world applications, the evaluation of systems designed for human-machine interaction becomes critical. AI research often intersects with other areas of study, including human-robot interaction, human-computer interaction, assistive technology, and ethics. Designing experiments to test hypotheses at the intersections of multiple research fields can be incredibly challenging. Many commonalities and differences already exist in experimental design for real-world systems. For example, the fields of human-robot interaction and human-computer interaction are two fields that have both joint and discrete goals. They look to evaluate very different aspects of design, interface, and interaction. In some instances, these two fields can share aspects of experimental design, while, in others, the experimental design must be fundamentally different.

We will provide a forum for researchers from many disciplines to discuss experiment design and the evaluation of real-world systems. We invite researchers from all applicable fields of human-machine interaction. We also invite researchers from allied fields, such as psychology, anthropology, design, human-computer interaction, human-robot interaction, rehabilitation and clinical care, assistive technology, and other related disciplines.

## Topics

This symposium will focus on a wide variety of topics that address the challenges of experiment design for real-world systems including the following and other related topics:

- The design of system evaluations
- Successes and failures in system evaluations
- Survey design for user studies
- Understanding the role technology plays in society
- Ethics of human subject studies
- Evaluating the use of machines as interventions
- The uses of quantitative and qualitative data

## Format and Submissions

We will have a mix of plenary speakers, short presentations, and break-out groups. We will also have a poster session. Short presentations and posters are invited to submit an abstract (less than 3 pages) on experiments conducted during their research, focused on the experimental methodology, especially those with unusual and effective methodologies. Email submissions to [aaai-sss-2009@cs.uml.edu](mailto:aaai-sss-2009@cs.uml.edu).

## Organizing Committee

David Feil-Seifer (USC), Heidi Maldonado (Stanford University), Bilge Mutlu (CMU), Leila Takayama (Stanford University), Katherine Tsui (University of Massachusetts, Lowell)

## Program Committee

Jenny Burke (USF), Kerstin Dautenhahn (Hertfordshire), Gert Jan Gelderbloom (VILANS), Maja Mataric (USC), Aaron Steinfeld (CMU), Holly Yanco (University of Massachusetts, Lowell)

## For More Information

For more information about the symposium, see the supplementary symposium web site at [www.cs.uml.edu/robots/aaai-sss-2009](http://www.cs.uml.edu/robots/aaai-sss-2009).

# Human Behavior Modeling

The Human Behavior Modeling symposium will explore methods for creating models of individual and group behavior from data. Models include generative and discriminative statistical models, relational models, and social network models. Data includes low-level sensor data (GPS, RFID, accelerometers, physiological measures, and so on), video, speech, and text. Behaviors are high-level descriptions of purposeful or meaningful activity, including activities of daily living (such as preparing a meal), interaction between small sets of individuals (for example, having a conversation), and mass behavior of groups (such as the flow of traffic in a city).

While behavior modeling is part of many research communities, such as intelligent user interfaces, machine vision, smart homes for aging in place, discourse understanding, social network analysis, and others, this symposium will be distinguished by its emphasis on exploring general representations and reasoning methods that can apply across many different domains.

For example, there is much recent interest in modeling the behavior of individuals and groups based on GPS (global positioning system) traces of their movements. Some of the dynamic motion models that are being employed turn out to also be useful for inferring high-level human behavior from traces of image features in video. Another example are the recent developments in efficient algorithms for efficient estimation of exponential random graph models of social networks, which are finding applications ranging from discourse analysis to epidemiology.

Questions the participants in the symposium will discuss include the following:

- Representation: Is it important to make all levels of the model interpretable?
- Generalization: What are some effective strategies for generalization?
- Domain knowledge: How can commonsense prior knowledge be combined with sensor data?
- Evaluation: How do we evaluate models in real world scenarios, especially when ground truth data is sparse or unavailable?

## Format and Submissions

*Papers:* The symposium agenda will include oral and poster presentations. We seek papers

that collectively span the range of human behavior modeling — from individuals to groups to societies — using a variety of different computational techniques and data sources.

*Panels:* In addition, we will have moderated panels and open discussions to encourage brainstorming, and to specifically identify grand challenge problems that could serve as a focal point for research efforts and innovation, and would provide a context in which to compare different methodologies and tools. Those interested in leading a panel should send in a two-page panel proposal by October 3, 2008. Please e-mail name and affiliation of all panelists.

*Doctoral Thesis Position Papers:* To encourage graduate student participation, we also invite advanced Ph.D. student to submit thesis position paper (6 pages, AAAI format) by the submission deadline.

E-mail all submissions to [aaai\\_ss09\\_hbm@cs.dartmouth.edu](mailto:aaai_ss09_hbm@cs.dartmouth.edu). Submissions will be judged on their technical merit and the potential to generate discussion and collaborations.

Participation in the symposium is open to all but space is limited. Persons interested in the symposium without contributing a paper or a panel are required to send e-mail by January 31, 2009 to reserve a spot.

## Organizing Committee

Henry Kautz (University of Rochester),  
Tanzeem Choudhury (Dartmouth College),  
Ashish Kapoor (Microsoft Research)

## Program Committee

Samy Bengio (Google), Hung Bui (SRI), Dieter Fox (University of Washington), Eric Horvitz (Microsoft Research), Rana El Kaliouby (MIT), Jiebo Luo (Kodak Research Laboratories), Chris Pal (University of Rochester), Alex (Sandy) Pentland (MIT), Daniel Gatica-Perez (IDIAP), Matthai Philipose (Intel Research), Nicu Sebe (University of Amsterdam)

## For More Information

For more information about the symposium, see the supplementary symposium web site at [www.cs.dartmouth.edu/~tanzeem/hbn\\_ss09/](http://www.cs.dartmouth.edu/~tanzeem/hbn_ss09/).

Event-based systems are now gaining increasing momentum as witnessed by current efforts in areas including event-driven architectures, business process management and modeling, Grid computing, Web services notifications, and message-oriented middleware. They become ever important in various application domains, ranging from traditional business applications, like supply-chain management, to the entertainment industry, like on-line gaming applications.

However, the current status of development is just the tip of the iceberg compared with the impact that event processing could achieve, as already reported by market research companies. Indeed, existing approaches are dealing primarily with the syntactical (but very scalable) processing of low-level signals and primitive actions, which usually goes with an inadequate treatment of the notions of time, context or concurrency (for example, synchronization). For example, some of the current event processing products are descendants of the active database research that misses efficient (formal) handling of termination, priority ordering, and confluence in rule bases.

AI and especially symbolic (for example, logic-based) approaches provide native background for the (formal) representation of the above mentioned missing concepts, enabling evolution from event processing systems into intelligent reactive systems. The work done in temporal logic, spatial reasoning, knowledge representation, ontologies, and so on enables more declarative representation of events and actions and their semantic processing. Contextual reasoning can support complex event prediction. Transactional logic can be used for ensuring the consistency between highly dependent processes in a formal way.

On the other side, the heterogeneous and highly distributed nature of event-processing systems, especially on the web, provides new challenges for AI and logics, like the contextualized reasoning over large stream data, scalable mapping of complex structures, or distributed approximate reasoning, to name but a few.

## Topics

Possible symposium topics comprise, but are not limited to the following:

- *Modeling*
  - Conceptual modelling in event-driven processing
  - Modeling context in event-driven processing
  - Event processing languages
  - Business rules and event-driven processing
  - Editors for complex events
  - Complex event processing in highly distributed AI applications
  - Modeling reactive systems using event-driven processing
- *Discovery*
  - Complex event patterns mining
  - Temporal aspects in event mining
  - Prediction of events
  - Evolution of existing models
- *Reasoning/Processing*
  - The role of logic in event processing
  - Distributed reasoning for events
  - Reasoning with uncertain events
  - Reasoning under real-time constraints
- *Advanced Applications*

## Submissions

Papers should be prepared using the two-column AAAI conference paper format. Long papers should be at most six pages; short papers at most two pages. Papers must be submitted electronically via the symposium website.

## Organizing Committee

Nenad Stojanovic, chair, (FZI – Research Center for Information Technologies at the University of Karlsruhe, Germany), Andreas Abecker (FZI, Germany), Opher Etzion (IBM Research Lab, Haifa, Israel), Adrian Paschke (RuleML Inc, Canada)

## For More Information

For more information about the symposium, see the supplementary symposium web site at [sss09.fzi.de](http://sss09.fzi.de)

**N**arrative is a pervasive aspect of all human societies. Human beings make sense of the world by constructing stories and listening to the stories of others. In addition, stories as a form of entertainment play a central role in our social and leisure lives. As a result, story and narrative have become a key interest for artificial intelligence researchers. The role of narrative as a primary mechanism for organizing human experience has been recognized in many fields. Work in narrative has become increasingly multidisciplinary with influences from many fields including art, psychology, cultural and literary studies, as well as drama.

This symposium aims to advance research in narrative technologies by bringing together relevant research communities to discuss innovations, progress and development in the field. Topics of interest include, but are not limited to the following:

- Story understanding and generation
- Narrative structure in interface design
- Narrative structure in the design of autonomous agents
- Believable agents
- Interactive storytelling
- Narrative in commonsense reasoning
- Narrative in intelligent learning environments
- Narrative in serious games and edutainment
- Intelligent narrative authoring tools
- Narrative psychology
- Narrative theory
- Emergent narrative
- Virtual cinematography
- Emotion modeling
- Natural language generation/understanding for narrative

There will be at least two panel discussions on topics such as "challenges for NLP in narrative research," "new challenges in developing novel authoring paradigms," or "integrating research advances for building complete narrative environments." If you are interested in hosting a panel discussion, please contact the organizers at [int2@cc.gatech.edu](mailto:int2@cc.gatech.edu).

## Submissions

The symposium will include three categories of papers: full papers of no more than eight (8) pages; extended abstracts of no more than four (4) pages; and demonstration and poster papers of two to four (2–4) pages. To foster more small-group discussions, every accepted paper will be presented as a poster regardless of length. Depending on the number of accepted papers, the full-length accepted papers will be invited to give 20–30 minute talks in addition to their poster presentation. The remaining accepted papers will be given five minute "spotlight" talks designed to advertise their poster. The full-length talks will be selected to illustrate the breadth of research, rather than be an indicator quality.

## Organizing Committee

Sandy Louchart, cochair (Heriot-Watt University), Manish Mehta, cochair (Georgia Institute of Technology), David L. Roberts, cochair (Georgia Institute of Technology), David Herman (Ohio State University), Marie-Laure Ryan, David Thue (University of Alberta)

## For More Information

For more information, contact the organizers at [int2@cc.gatech.edu](mailto:int2@cc.gatech.edu) or visit the symposium's supplementary web site at [www.cc.gatech.edu/conferences/aaai-int2/](http://www.cc.gatech.edu/conferences/aaai-int2/).

The majority of human knowledge is encoded in text, and much of this text is available in machine readable form on the web. But to machines, the knowledge encoded in the texts they read remains inaccessible. Significant progress has been made in such basic areas of language processing as morphological analysis, syntactic parsing, proper name recognition, and logical form extraction. This has already advanced information extraction and filtering capabilities, as a variety of current application systems demonstrate. Still, intelligent machines of today cannot yet claim to be able to generate semantic representations on the scale and of the depth sufficient to support automatic reasoning, a situation often blamed on the knowledge acquisition bottleneck.

The goal of this symposium is to stimulate discussion and open exchange of ideas about two aspects of making texts semantically accessible to, and processable by, machines. The first, learning by reading, relates to automatically extracting machine-understandable (machine-tractable) knowledge from text. The second, learning to read, is related to automating the process of knowledge extraction required to acquire and expand resources (for example, ontologies and lexicons) that facilitate learning by reading. There is a clear symbiotic relationship between these two aspects — expanding knowledge resources enables systems that extract knowledge from text to improve at that task over time and vice versa. Given significant diversity in topics, terminology, and writing styles, learning to read will be crucial to large-scale deployment of systems that learn by reading.

## Topics

Topics of interest include, but are not limited to, the following:

- Extracting ontologies de novo from text
- Expanding ontologies (learning new concepts or properties) by automatic processing of text
- Expanding lexicons (adding new terms or linking lexicons to ontologies) through automatic text processing
- End-to-end self-bootstrapping systems that learn by reading by learning to read
- Special challenges posed by extracting knowledge from text gathered from the web
- Semantic integration and interoperability

- Evaluation metrics for systems that learn by reading or learn to read
- Learning from expository texts (for example, encyclopedias)
- Targeted (goal-directed) machine reading
- Special challenges posed by learning (either to read or by reading) for long periods of time (called "lifelong learning" in the machine learning community)
- Reasoning with knowledge acquired from text
- Knowledge mining

## Submissions

Submissions can be either position statements (no more than 2 pages) or full papers (no more than 8 pages) in standard AAAI format, and should be mailed to either of the cochairs (sergei@umbc.edu or oates@umbc.edu). PDF format is preferred, but others, such as Word, are acceptable.

## Organizing Committee

James Allen (University of Rochester), Peter Clark (Boeing Corporation), Jon Curtis (Cycorp), Graeme Hirst (University of Toronto), Sergei Nirenburg, cochair (University of Maryland, Baltimore County), Tim Oates, cochair (University of Maryland, Baltimore County), Lenhart Schubert (University of Rochester), John F. Sowa (VivoMind Inc.)

## For More Information

For more information about the symposium, see the supplementary symposium web site at [www.coral-lab.org/~oates/aaai2009ss/](http://www.coral-lab.org/~oates/aaai2009ss/)

# Social Semantic Web: Where Web 2.0 Meets Web 3.0

Web 2.0 (also known as the social web) applications such as Wikipedia, LinkedIn, and Facebook, are well known for fast-growing online data production via their network effects. Meanwhile, emerging web 3.0 applications, driven by semantic web technologies such as RDF, OWL and SPARQL, offer powerful data organization, combination, and query capabilities.

The social web and the semantic web complement each other in the way they approach content generation and organization. Social web applications are fairly unsophisticated at preserving the semantics in user-submitted content, typically limiting themselves user tagging and basic metadata. Because of this, they have only limited ways for consumers to find, customize, filter and reuse data. Semantic web applications, on the other hand, feature sophisticated logic-backed data handling technologies, but lack the kind of scalable authoring and incentive systems found in successful social web applications. As a result, semantic web applications are typically of limited scope and impact. We envision a new generation of applications that combine the strengths of these two approaches: the data flexibility and portability of that is characteristic of the semantic web, and the scalability and authorship advantages of the social web.

In this symposium, we are interested in bringing together the semantic web community and the social web community to promote the collaborative development and deployment of semantics in the web context. We welcome constructive papers on, for example: (1) how semantic technologies, especially knowledge representation and collective intelligence, can benefit social web content organization and retrieval; (2) how social web technologies can facilitate massive semantic content production; and (3) how to address the requirements, for example, reasoning scalability and semantic convergence issues, which emerge from the combination.

## Topics

We encourage submissions of full papers, extended abstracts, demonstrations and posters describing research and applications that deal with (but not limited to) the following topics on social semantic web:

- Collaborative and collective semantic data gen-

eration and publishing

- Semantic tagging and annotation for social web
- Data integration
- Data portability
- Data analysis and data mining
- Privacy, policy and access control
- Provenance, reputation and trust
- Scalable search, query and reasoning
- Semantically-enabled social applications: semantic wikis, semantic desktops, semantic portals, semantic blogs, semantic calendars, semantic e-mail, semantic news, and so on.

## Submissions

Interested participants should submit papers in PDF format to [www.easychair.org/conferences/?conf=ssw08](http://www.easychair.org/conferences/?conf=ssw08). Submissions should be formatted in the AAAI format. Full papers are limited in 6 pages and position papers and demos are limited in 2 pages. Selected papers from the symposium will be published as an AAAI technical report.

## Organizing Committee

Mark Greaves (Vulcan Inc.), Li Ding (Rensselaer Polytechnic Institute), Jie Bao (Rensselaer Polytechnic Institute), Uldis Bojars (National University of Ireland, Galway)

## For More Information

For more information about the symposium, see the supplementary symposium web site at [tw.rpi.edu/portal/index.php/Social\\_Web\\_Semantics](http://tw.rpi.edu/portal/index.php/Social_Web_Semantics)

The Technosocial Predictive Analytics Symposium will explore new methods for anticipatory analytical thinking that (1) implement a multiperspective approach to predictive modeling through the integration of human and physical factors, leveraging knowledge insights from both the social and natural sciences, and (2) utilizes ancillary disciplines to the modeling tasks to (a) enhance cognitive access, and (b) facilitate the achievement of knowledge inputs.

Our goal is to bring together experts from a variety of disciplines relevant to this emerging field of inquiry to stimulate the inception of a new community of interest. In doing so, we elicit contributions in predictive modeling and ancillary disciplines relative (but not limited) to the following areas:

- Probabilistic modeling
- Evidentiary reasoning
- Agent-based modeling
- Equation-based modeling
- Risk analysis
- Decision support
- Interactive visualization
- Information analytics
- Augmented/enhanced cognition
- Serious gaming
- Information extraction
- Content analysis
- Knowledge representation
- Expert knowledge elicitation and dissemination
- Collaborative work
- Social intelligence and related Web 2.0 technologies and processes
- Structured argumentation
- Evaluation

## Submissions

Paper submissions will be accepted in three areas:

### Technosocial Modeling

Papers will address the development, implementation, and evaluation of new multiperspective methods and algorithms in predictive modeling.

### Knowledge Inputs

Papers will describe novel ways of (1) leveraging computer aided content/signal extraction and analysis for marshaling actionable

evidence, and (2) using knowledge-representation methods to encapsulate and access expert knowledge and marshaled evidence.

### Cognitive Enhancement

Papers will address the use of visual interactivity and enhanced cognition techniques to empower the user in the modeling task, promote inferential transparency in the analysis of modeling and simulation outputs, and support collaborative/competitive decision-making.

The symposium will include invited talks related to these three areas and a special session with government agency representatives to discuss application requirements and follow-on activities.

Please send inquiries and submissions to [antonio.sanfilippo@pnl.gov](mailto:antonio.sanfilippo@pnl.gov).

## Organizing Committee

Antonio Sanfilippo, chair (Pacific Northwest National Laboratory), Peter Brooks (Intelligence Advanced Research Projects Agency), Kathleen Carley (Carnegie Mellon University), Claudio Cioffi-Revilla (George Mason University), Nigel Gilbert (University of Surrey), David Sallach (Argonne National Laboratory), Jim Thomas (Pacific Northwest National Laboratory), Steve Unwin (Pacific Northwest National Laboratory)

## For More Information

For more information about the symposium, see the supplementary symposium web site at [predictiveanalytics.pnl.gov](http://predictiveanalytics.pnl.gov)



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