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# Yolanda Gil

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*Curriculum Vitae, last updated January 2009*

## Contact Information

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## Current Positions

- **Principal Investigator and Project Leader** of the Interactive Knowledge Capture research group (since 1996). The project is supported by diverse funding sources for a total of more than \$1.5M per year. Senior Research Scientist from 1992 to 1996.
- **Associate Division Director for Research** of the Intelligent Systems Division at USC/ISI (since September 2002).
- **Research Associate Professor** in the Department of Computer Science at USC (since 2002).

## Education

- Carnegie Mellon University (1986-1992). Ph.D. in Computer Science.  
  
Dissertation title: "Acquiring Domain Knowledge for Planning by Experimentation."  
  
Thesis committee: Jaime Carbonell (chair), Tom Mitchell, Herbert A. Simon, Nils J. Nilsson (external member).

- Carnegie Mellon University (1986-1989). M.Sc. in Computer Science.
- Politechnic University of Madrid (1980-1985). B.S. in Computer Science ("Licenciatura").

Undergraduate thesis: "Concurrent Simulation of Logic Circuits."

## Research Interests

- **Scientific workflows:** intelligent assistance and automation to support the creation of large-scale scientific applications, scientific workbenches for high performance computing environments.
- **Proactive knowledge capture:** knowledge authoring, knowledge acquisition, learning from demonstration and from examples.
- **Interactive intelligent systems:** knowledge-rich problem solving, user-centered decision aids, mixed-initiative systems.
- **Knowledge management and the Semantic Web:** knowledge and information management, knowledge modeling and reuse, collection and organization of semantic markup for the Web.
- **Agents:** agents to support human organizations, agent communication, human-agent collaboration.
- **Applications of Artificial Intelligence to practical problems:** bioinformatics, geosciences, logistics planning, air campaign planning, course of action development, special operations, intelligence analysis, configuration design.

## Professional Activities

### Editorial Boards

- Cognitive Science (Jan'06 - present). Associate Editor.
- Applied Ontology (Dec'04 - present). Founding editorial board member.
- Journal of Web Semantics (Dec'02 - present). Founding editorial board member.

- The Semantic Web (Jun'00 - present). Founding area editor.
- IEEE Intelligent Systems (Jul'98 - present). Editorial board member.
- The Knowledge Engineering Review (Jul'98 - present). Editorial board member.

### **Conference Organizing Committees**

- Conference Committee Chair, American Association for Artificial Intelligence (AAAI), 2006-present.
- Program Co-Chair, National Conference for Artificial Intelligence (AAAI), 2006.
- Program Co-Chair, Fourth International Semantic Web Conference (ISWC), 2005.
- Tutorial Co-Chair, National Conference for Artificial Intelligence (AAAI), 2005.
- Program Chair, Intelligent User Interfaces (IUI), 2002.
- General chair, Second International Conference on Knowledge Capture (K-CAP), 2003.
- Co-chair and conference founder (with Mark Musen and Jude Shavlik), First International Conference on Knowledge Capture (K-CAP), 2001.
- Co-chair (with Karen Myers), AAAI Workshop on "Representational Issues for Real-world Planning Systems," 2000.
- Chair, AAAI Symposium on "Acquisition, Learning, and Demonstration: Automating Tasks for Users," 1996.
- Co-chair (with Manuela Veloso), AAAI Symposium on "Planning and Learning: On to Real Applications," 1994.

### **Conference Program Committees**

- American Association for Artificial Intelligence (AAAI). Program committee, 1996, 1997, 1998, 2004, 2008. Nectar track: 2007, 2008.
- International Conference on Artificial Intelligence (IJCAI). Reviewing committee, 2001, 2003. Senior program committee, 2009.
- World Wide Web (WWW) Conference. Program committee, 2005.

- International Semantic Web Conference (ISWC). Program committee, 2003, 2004, 2005 (PC co-chair). Meta-reviewer: 2008.
- Innovative Applications of Artificial Intelligence (IAAI): Program committee, 2004, 2005, 2008.
- International Conference on Intelligent User Interfaces (IUI). Program committee: 2000, 2001, 2002 (PC chair), 2003, 2004. Meta-reviewer: 2005, 2006, 2007, 2008, 2009.
- International Conference on Machine Learning (ICML). Program committee and area chair, 2002.
- International Conference on Ontologies, Databases, and Applications of Semantics (ODBASE). Program committee, 2003.
- Artificial Intelligence Planning Systems (AIPS). Program committee 1996, 1998, 2000.
- Principles of Knowledge Representation and Reasoning (KR). Program committee, 2000.
- IEEE Symposium on Multi Agent Security and Survivability (MAS&S). Program committee, 2004, 2005.

### **Other Reviewing and Service**

- National Science Foundation, served as proposal reviewer in many panels.
- National Institutes of Health, served as proposal reviewer in many panels.
- Air Force Office of Scientific Research, proposal reviewer.
- Kyoto Prize, Inamori Foundation, Kyoto, Japan.
- MIT Press, book reviewer.
- AAAI Conference Committee: Chair 2006-present, Associate Chair 2004-2006. This committee oversees the AAAI and IAAI conferences as well as the AIIDE conference and the new International Conference on Weblogs and Social Media. Added several ongoing events to the conference, including special tracks of technical papers, a Nectar Track for accessible overviews of AI research published in other venues, and a Teaching Forum where accomplishments in AI education will be highlighted at the annual conference.

- AAAI Awards Committee 2005-present.
- IJCAI Advisory Committee, 2007.
- IJCAI Awards Review Committee, 2007.
- AAAI Grants Committee, 2004-2006.

<h2>Awards and Honors</h2>
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- **Chair of Committee of Visitors (COV) of the Information and Intelligent Systems (IIS) Division of the National Science Foundation Directorate for Computing and Information Science and Engineering (CISE), 2009.** The Committee of Visitors (COV) is an external review group convened every three years to assess the quality and integrity of the proposal review process and decisions and to make recommendations to NSF regarding the accomplishment of program and foundation goals.
- **Invited to serve in the Advisory Council of the National Science Foundation Directorate for Computing and Information Science and Engineering (CISE) for the term 2006-2008.**
- **Elected to the Council of the American Association of Artificial Intelligence (AAAI) in 2003.** Four councilors are elected annually to three-year terms with a total of twelve councilors. Continued in the Council as Chair of the Conference Committee until 2009.
- **Best Paper Award** at the International Conference on Intelligent User Interfaces, held January 14-17 2001 in Santa Fe, New Mexico (USA) for:

*"An Integrated Environment for Knowledge Acquisition" by  
Jim Blythe, Jihie Kim, Surya Ramachandran, and Yolanda Gil.*

- **Award from the Defense Advanced Research Projects Agency and Rome Laboratory Planning Initiative,** presented by Tom Garvey (DARPA ISO Assistant Director for C2/Planning) on June 12, 1996:

*"In recognition of and sincere appreciation for efforts above and beyond the call of duty to ensure the successful demonstration of Automated Air Campaign Planning for the US Air Force Combat Command."*

- **Meritorious Service Award from USC/ISI**, presented by Herb Schorr (USC/ISI Director) and Robert Balzer (USC/ISI Division Director) on March 16, 1998:

*"For significantly improving ISI's access to quality graduate research students."*

- **ISI Teaching Fellowship**, Fall 1996.

<b>Teaching, Advising, and Academic Service at USC</b>
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- CS Chair Advisory Council (2007-2008). Consultation by the chair on decisions and plans for the Computer Science Department.
- CS Committee for PhD programs (2007-2008). Participate on PhD admissions, recruiting, and fellowships. Nominations to various awards for recognition of RAs and TAs in the department.
- Appointed to the USC Advisory Committee on National and International Graduate Fellowships in 2003/2004 and 2004/2005. Served as ad-hoc reviewer 2005-present.
- CS Hiring Committee, autonomy area, Spring 2004.
- CS Performance Evaluation committee for research faculty, 2003.
- Head of the Computer Science PhD Graduate Student Assistance Committee at USC (1998-2005). Nomination of fellowships, assignment of Teaching Assistantships, mediation of Research Assistantship awards, and recruiting. Member of committee 1995-1998.
- Artificial Intelligence Planning graduate course at USC (CS 541). Taught every other year in the Fall semester. Last held on Fall 2003. Initially taught as an advanced seminar course in Fall 1996 and Fall 2000, instituted as a required course for the CS PhD degree at USC in 1998.
- Graduate student advising:
  - "A Script-Based Approach to Modifying Knowledge-Based Systems." Marcelo Tallis, PhD thesis, Department of Computer Science of the University of Southern California, 1999. Chair.
  - "Semantic Indexing: Efficient Retrieval of Semantically Similar Concepts." Eric Melz, MSc thesis, Department of Computer Science of the University of Southern California, 1997.

- Recent PhD committees: Hyunjin Yoon (2008), Emma Bowring (2007), Martin Michalowski (2007), Ratapoom Tuchinda (2007), Gurmeet Singh (2006).

## Other Teaching, Advising, and Academic Service

- Tutorial on “Computational Workflows for Large-Scale Artificial Intelligence Research” at the Twenty-Third AAAI Conference on Artificial Intelligence (AAAI-08) held in Chicago, Illinois, July 13, 2008.
- Judge, Intel International Science and Engineering Fair (ISEF) for high school students grades 9-12, Association of the Advancement of Artificial Intelligence Awards, 2007.
- Invited to present at the Sally Ride Science Festival for attracting young girls to science, "On-Line Collaboratories and the Southern California Earthquake Center", held in November 2003.
- Faculty advisor, SIGART/AAAI Doctoral Consortium, held during the National Conference on Artificial Intelligence (AAAI), 1997, 1998.
- Recent PhD committees:
  - University of Texas at Austin: James Fan (2006).
  - University of Aberdeen: Edoardo Pignotti (2007).

## Awards and Grants

- **Designing Scientific Software One Workflow at a Time.**  
*Funder:* National Science Foundation (NSF)  
*Award number:* CCF-0725332.  
*Period of performance:* October 2007 - September 2010.  
*Principal Investigators:* Yolanda Gil and Ewa Deelman.
- **Plato: Phased-Learning through Analyzing Teaching and Observation.**  
*Funder:* DARPA Bootstrapped Learning (BL) program  
*Award number:* HR0011-07-C-0060.  
*Period of performance:* August 2007-July 2011.  
*Principal Investigators:* Subcontract to SRI International. ISI co-PIs: Paul Cohen and Yolanda Gil.
- **NSF Workshop on Scientific Workflows Challenges (WSW-06).**  
*Funder:* NSF IIS.

*Award number:* IIS-0629361.

*Period of performance:* May 2006-May 2009.

*Principal Investigators:* Yolanda Gil (PI) and Ewa Deelman (co-PI).

- **Intelligent Optimization of Parallel and Distributed Applications.**

*Funder:* NSF Computer Science Research (CSR) program.

*Award number:* CSR-0615412.

*Period of performance:* August 2006 – September 2009.

*Principal Investigators:* Mary Hall (PI), Kristina Lerman (co-PI), Ewa Deelman (co-PI), Aichiro Nakano (co-PI), Joel Saltz (co-PI).

- **MathTrust : Mathematical Analysis of Trust and Deception.**

*Funder:* Air Force Office of Scientific Research (AFOSR).

*Award number:* FA9550-06-1-0031.

*Period of performance:* December 2005 - May 2009.

*Principal Investigators:* Yolanda Gil (PI).

- **CALO-KA: Advice Taking for a Personalized Cognitive Assistant.**

*Funder:* DARPA Personalized Assistants that Learn (PAL) program

*Award number:* NBCHD030010.

*Period of performance:* May 2003 - March 2009.

*Principal Investigator:* Subcontract to SRI International. ISI co-PIs: Craig Knoblock, Jerry Hobbs, and Yolanda Gil.

- **Scalable Knowledge Discovery Through Grid Workflows.**

*Funder:* Air Force Research Laboratory

*Award number:* FA8750-06-C-0210.

*Period of performance:* September 2006 – December 2008.

*Principal Investigator:* Yolanda Gil. ISI co-PIs: Paul Cohen and Ewa Deelman.

- **C4ML: Metareasoning for Integrated Learning.**

*Funder:* DARPA Integrated Learning (IL) program

*Award number:* FA8650-06-C-7606.

*Period of performance:* May 2006-December 2008.

*Principal Investigators:* Subcontract to BBN Technologies. ISI co-PIs: Paul Cohen and Yolanda Gil.

- **Intelligent Design and Optimization of Parallel and Distributed Applications.**

*Funder:* NSF Computer Science Research (CSR) program.

*Award number:* CNS-0509517.

*Period of performance:* July 2005 – December 2006.

*Principal Investigators:* Mary Hall (PI), Kristina Lerman (co-PI), Ewa Deelman (co-PI), Aichiro Nakano (co-PI), Joel Saltz (co-PI).

- **Towards Cognitive Grids: Knowledge-Rich Grid Services for Autonomous Workflow Refinement and Robust Execution.**

*Funder:* NSF Shared Cyberinfrastructure (SCI) program.

*Award number:* SCI-0455361.

*Period of performance:* December 2004-November 2006.

*Principal Investigators:* Ewa Deelman (PI) and Yolanda Gil (co-PI).

- **Just-In-caSe just-in-Time Information Analysis.**

*Funder:* Department of Defense.

*Award number:* N66001-03-C-8006.

*Period of performance:* December 2002 - December 2007.

*Principal Investigator:* Yolanda Gil (PI).

- **The SCEC Community Modeling Environment--An Information Infrastructure for System-Level Earthquake Research.**

*Funder:* National Science Foundation Information Technology Research program (NSF/ITR).

*Award number:* EAR-0122464.

*Principal Investigators:* Grant PIs: Thomas H. Jordan (USC/SCEC), J. Bernard Minster (UCSD), Carl Kesselman (USC/ISI), Reagan Moore (SDSC). ISI co-PIs: Hans Chalupsky, Yolanda Gil, Carl Kesselman.

*Period of performance:* October 2001-September 2006.

- **TRELLIS: Capturing and Exploiting Semantic Relationships for Information and Knowledge Management.**

*Funder:* Air Force Office for Scientific Research (AFOSR).

*Award number:* F49690-00-1-0337.

*Principal Investigator:* Yolanda Gil (PI).

*Period of performance:* August 2000 - December 2003.

- **TEMPLE: Template Enhancement through Knowledge Acquisition.**

*Funder:* DARPA Active Templates (AcT) program.

*Award number:* F30602-00-2-0513.

*Principal Investigator:* Yolanda Gil (PI).

*Period of performance:* April 2000 - April 2003.

- **Phosphorus: A Knowledge and Experience-Based Agent Capabilities Matcher.**

*Funder:* DARPA Control of Agent-Based Systems (CoABS) program.

*Award number:* F30602-97-C-0068.

*Principal Investigators:* Yolanda Gil (co-PI) and Robert MacGregor (co-PI).

*Period of performance:* June 1999 - December 2001.

- **KASPER: Knowledge Acquisition for Solving Problems.**

*Funder:* DARPA Rapid Knowledge Formation (RKF) program.

*Award number:* N66001-00-C-8018.

*Principal Investigator:* Yolanda Gil (ISI PI).

*Period of performance:* April 2000 - February 2004.

- **KAMM: Knowledge Acquisition for Objective Grammars in MasterMind Editor.**

*Funder:* Air Force Research Laboratory's Joint Defense Planner (JDP) program.

*Award number:* F30602-97-C-0118.

*Principal Investigators:* Yolanda Gil (co-PI) and Pedro Szekely (co-PI).

*Period of performance:* April 2000 - September 2000.

- **SHERPA: Knowledge Acquisition for Large Knowledge Bases -- Integrating Problem-Solving Methods and Ontologies into Applications.**

*Funder:* DARPA High Performance Knowledge Bases (HPKB) program.

*Award number:* F30602-97-1-0195.

*Principal Investigators:* Bill Swartout (co-PI) and Yolanda Gil (co-PI).

*Period of performance:* April 1997 - April 2000.

- **INSPECT-II: An Air Campaign Planning Evaluation Aid.**

*Funder:* DARPA Joint Forces Air Component Commander (JFACC) program.

*Award number:* F30602-97-C-0118.

*Principal Investigators:* Bill Swartout (co-PI) and Yolanda Gil (co-PI).

*Period of performance:* April 1997 - September 2000.

- **Rosetta: Ontology-Based Agent Communication.**

*Funder:* DARPA Information Systems Office (ISO) Technology Integration Experiment program.

*Award number:* F30602-97-1-0195.

*Principal Investigators:* Yolanda Gil (co-PI) and Robert MacGregor (co-PI).

*Period of performance:* July 1999 - July 2000.

- **EXPECT-II: A User-Centered Environment for the Development and Adaptation of Knowledge-Based Planning Aids.**

*Funder:* DARPA/Rome Planning Initiative (ARPI) program.

*Award number:* DABT 63-95-C-0059.

*Principal Investigators:* Yolanda Gil (co-PI) and Bill Swartout (co-PI).

*Period of performance:* May 1995 - May 1999.

## Publications

### Edited Volumes

1. Proceedings of the First International Conference on Knowledge Capture (K-CAP 2001), Yolanda Gil, Mark Musen, and Jude Shavlik (Eds), October 21-23, 2001, Victoria, British Columbia. ACM 2001.
2. Proceedings of the 2002 International Conference on Intelligent User Interfaces (IUI 2002), Yolanda Gil and David Leake (Eds), January 13-15, 2002, San Francisco, CA, ACM, 2002.
3. Proceedings of the Second International Conference on Knowledge Capture (K-CAP 2003), John H. Gennari, Bruce W. Porter, Yolanda Gil (Eds), October 23-25, 2003, Sanibel Island, FL. ACM 2003.
4. Special Issue on e-Science, David DeRoure, Yolanda Gil, and Jim Hendler (Eds). IEEE Intelligent Systems, January 2004.
5. Proceedings of the Fourth International Semantic Web Conference (ISWC 2005), Yolanda Gil, Enrico Motta, V. Richard Benjamins, Mark A. Musen (Eds), November 6-10, 2005, Galway, Ireland. Springer 2005.
6. Proceedings of the Twenty-First National Conference on Artificial Intelligence (AAAI 2006), Yolanda Gil and Raymong Mooney (Eds), July 16-20, 2006, Boston, MA. AAAI Press, 2006.
7. Special issue with selected papers from the Fourth International Semantic Web Conference (ISWC 2005). Yolanda Gil and Enrico Motta (Eds). Journal of Web Semantics, 5(1), 2007.

## Journal Articles

1. "Explanation-Based Learning: A Problem-Solving Perspective." Steven Minton, Jaime Carbonell, Craig Knoblock, Dan Kuokka, Oren Etzioni, and Yolanda Gil. *Artificial Intelligence*, Volume 40, Number 1/3, September 1989.
2. "Towards Method-Independent Knowledge Acquisition." Yolanda Gil and Cecile Paris. *Knowledge Acquisition*, Volume 6, Number 2, June 1994.
3. "User Studies of Knowledge Acquisition Tools: Methodology and Lessons Learned". Marcelo Tallis and Jihie Kim and Yolanda Gil. *Journal of Experimental and Theoretical AI*, Vol 13, pp 359-378, 2001.
4. "Mapping Abstract Workflows onto Grid Environments", Ewa Deelman, Jim Blythe, Yolanda Gil, Carl Kesselman, Gaurang Mehta, Karan Vahi, Kent Blackburn, Albert Lazzarini, Adam Arbree, Richard Cavanaugh, and Scott Koranda. *Journal of Grid Computing*, Vol. 1, No. 1, 2003.
5. "A Short Study on the Success of the Gene Ontology", Michael Bada, Robert Stevens, Carole Goble, Yolanda Gil, Michael Ashburner, Judith A. Blake, J. Michael Cherry, Midori Harris, and Suzanna Lewis. *Journal of Web Semantics*, Vol 1 (2), 2004.
6. "Pegasus: A framework for mapping complex scientific workflows onto distributed systems", Ewa Deelman, Gurmeet Singh, Mei-Hui Su, James Blythe, Yolanda Gil, Carl Kesselman, Gaurang Mehta, Karan Vahi, G. Bruce Berriman, John Good, Anastasia Laity, Joseph C. Jacob, Daniel S. Katz. *Scientific Programming*, Vol. 13, No. 3, 2005.
7. "Simplifying Construction of Complex Workflows for Non-Expert Users of the Southern California Earthquake Center Community Modelling Environment", P. Maechling, H. Chalupsky, M. Dougherty, E. Deelman, Y. Gil, S. Gullapalli, V. Gupta, C. Kesselman, J. Kim, G. Mehta, B. Mendenhall, T. Russ, G. Singh, M. Spraragen, G. Staples, and K. Vahi. *ACM SIGMOD Record*, special issue on Scientific Workflows, Vol 34 (3), September 2005.
8. "On Agents and Grids: Creating the Fabric of a New Generation of Distributed Intelligent Systems", Yolanda Gil. *Journal of Web Semantics*, Volume 4, Issue 2, June 2006.
9. "A Survey of Trust in Computer Science and the Semantic Web", Donovan Artz and Yolanda Gil. *Journal of Web Semantics*, Volume 5, Issue 2, 2007.
10. "Incorporating Tutoring Principles into Interactive Knowledge Acquisition", Jihie Kim and Yolanda Gil. *International Journal of Human-Computer Studies*, (65)10, October 2007.
11. "Towards Content Trust of Web Resources", Yolanda Gil and Donovan Artz. *Journal of Web Semantics*, Volume 5, Issue 4, December 2007.

12. "Self-Configuring Applications for Heterogeneous Systems: Program Composition and Optimization Using Cognitive Techniques". Mary Hall, Yolanda Gil, and Robert Lucas. Proceedings of the IEEE, Special Issue on Edge Computing, February 2008.
13. "Provenance Trails in the Wings/Pegasus Workflow System", Jihie Kim, Ewa Deelman, Yolanda Gil, Gaurang Mehta, Varun Ratnakar. Concurrency and Computation: Practice and Experience, Special Issue on the First Provenance Challenge, Vol 20, Issue 5, April 2008.
14. "From Data to Knowledge to Discoveries: Scientific Workflows and Artificial Intelligence." Yolanda Gil. To appear in Scientific Programming, 2009.
15. "Principles for Interactive Acquisition and Validation of Workflows." Yolanda Gil, Jihie Kim, and Marc Spraragen. To appear in the Journal of Experimental and Theoretical Artificial Intelligence, 2009.

### **Book Chapters**

1. "Learning by Experimentation: The Operator Refinement Method." Jaime Carbonell and Yolanda Gil. Machine Learning: An Artificial Intelligence Approach, Volume III, Michalski, R. S. and Kodratoff, Y. (Eds.), Morgan Kaufmann, San Mateo, CA, 1990.
2. "EXPECT: A User-Centered Environment for the Development and Adaptation of Knowledge-Based Planning Aids." William R. Swartout and Yolanda Gil. In Advanced Planning Technology: Technological Achievements of the ARPA/Rome Laboratory Planning Initiative, Austin Tate (Ed), AAAI Press, Menlo Park, CA, 1996.
3. "Planning and Learning in PRODIGY: Overview of an Integrated Architecture." Jaime Carbonell, Oren Etzioni, Yolanda Gil, Robert Joseph, Craig Knoblock, Steven Minton, and Manuela Veloso. In Goal-Driven Learning, Aswin Ram and David Leake (Eds.), MIT Press, Boston, MA, 1995.
4. "Knowledge Mobility: Semantics for the Web as a White Knight for Knowledge-Based Systems". Yolanda Gil. In Spinning the Semantic Web, D. Fensel, J. Hendler, H. Lieberman, and W. Whalster (Eds), MIT Press, 2003.
5. "Workflow Management in GriPhyN", Ewa Deelman, Jim Blythe, Yolanda Gil, and Carl Kesselman. In Grid Resource Management, J. Nabryski, J. Schopf, and J. Weglarz (Eds), Kluwer 2003.
6. "Workflow Composition", Yolanda Gil. In Workflows for e-Science, D. Gannon, E. Deelman, M. Shields, I. Taylor (Eds), Springer Verlag, 2006.

### **Refereed Magazine Articles**

1. "PRODIGY: an integrated architecture for planning and learning." Jaime Carbonell, Oren Etzioni, Yolanda Gil, Robert Joseph, Craig Knoblock, Steve

- Minton, Manuela Veloso. ACM SIGART Bulletin, Volume 2 Issue 4, July 1991. "Agent Technology to Support Human Organizations", H. Chalupsky, Y. Gil, C. A. Knoblock, K. Lerman, J. Oh, D. V. Pynadath, T. A. Russ, and M. Tambe. AI Magazine, Vol 23, No 2, Summer 2002.
2. "Artificial Intelligence and Grids: Workflow Planning and Beyond", Yolanda Gil, Ewa Deelman, Jim Blythe, Carl Kesselman, and Hongsuda Tangmurarunkit. IEEE Intelligent Systems, January 2004.
  3. "Automatically Composed Workflows for Grid Environments", Jim Blythe, Ewa Deelman, and Yolanda Gil. IEEE Intelligent Systems, July/August, 2004.
  4. "Description Logics and Planning", Yolanda Gil. AI Magazine, Summer 2005.
  5. "Examining the Challenges of Scientific Workflows", Yolanda Gil, Ewa Deelman, Mark Ellisman, Thomas Fahringer, Geoffrey Fox, Dennis Gannon, Carole Goble, Miron Livny, Luc Moreau, and Jim Myers. IEEE Computer, vol. 40, no. 12, pp. 24-32, December, 2007.
  6. "Scientific Software as Workflows: From Discovery to Distribution". David Woollard, Nenad Medvidovic, Yolanda Gil, and Chris Mattmann. IEEE Software, Special Issue on Developing Scientific Software, July/August 2008.

### **Refereed Conference Papers**

1. Designing an Integrated Architecture: The PRODIGY View." Jaime G. Carbonell, Yolanda Gil, Robert Joseph, Craig A. Knoblock, Steve Minton, Manuela M. Veloso. Proceedings of the Twelfth Annual Conference of the Cognitive Science Society (CogSci), Cambridge, MA, July 1990.
2. "Efficient Domain-Independent Experimentation." Yolanda Gil. Proceedings of the Tenth International Conference on Machine Learning (ICML-93), Amherst, MA, June 1993.
3. "Learning by Experimentation: Incremental Refinement of Incomplete Planning Domains." Yolanda Gil. Proceedings of the Eleventh International Conference on Machine Learning (ICML-94), Rutgers, NJ, July 10-13, 1994.
4. "Knowledge Refinement in a Reflective Architecture." Yolanda Gil. Proceedings of the Twelfth National Conference of Artificial Intelligence (AAAI-94), Seattle, WA, August 1994.
5. "Planning Experiments: Resolving Interactions between Two Planning Spaces." Yolanda Gil. Proceedings of the Third International Conference on Artificial Intelligence Planning Systems (AIPS-96), Edinburgh, Scotland, May 29-31, 1996.
6. "Explicit Representations of Problem-Solving Strategies to Support Knowledge Acquisition." Yolanda Gil and Eric Melz. Proceedings of the Thirteenth National Conference on Artificial Intelligence (AAAI-96), Portland, OR, August 4-8, 1996.

7. "A Script-Based Approach to Modifying Knowledge Bases." Yolanda Gil and Marcelo Tallis. Proceedings of the Fourteenth National Conference on Artificial Intelligence (AAAI-97), Providence, RI, July 27-31, 1997.
8. "Designing Scripts to Guide Users in Modifying Knowledge-Based Systems." Marcelo Tallis and Yolanda Gil. Proceedings of the Fourteenth National Conference on Artificial Intelligence (AAAI-99), Orlando, FL, July 19-22, 1999.
9. "Deriving Expectations to Guide Knowledge Base Creation." Jihie Kim and Yolanda Gil. Proceedings of the Fourteenth National Conference on Artificial Intelligence (AAAI-99), Orlando, FL, July 19-22, 1999.
10. "User Studies of an Interdependency-Based Interface for Acquiring Problem-Solving Knowledge." Jihie Kim and Yolanda Gil. Proceedings of the International Conference on Intelligent User Interfaces (IUI-2000), New Orleans, LA, January 9-12, 2000.
11. "Acquiring Problem-Solving Knowledge from End Users: Putting Interdependency Models to the Test." Jihie Kim and Yolanda Gil. Proceedings of the Fifteenth National Conference on Artificial Intelligence (AAAI-2000), Austin, TX, July 30-August 3, 2000.
12. "An Integrated Environment for Knowledge Acquisition." Jim Blythe, Jihie Kim, Surya Ramachandran, and Yolanda Gil. Proceedings of the 2001 International Conference on Intelligent User Interfaces (IUI-2001), Santa Fe, New Mexico, January 2001. Recipient of the Best Paper Award.
13. "PHOSPHORUS: A Task-Based Agent Matchmaker", Yolanda Gil and Surya Ramachandran. Proceedings of the Fifth International Conference on Autonomous Agents (Agents'01), short paper track. Montreal, Canada, May 28-June 1, 2001.
14. "Electric Elves: Applying Agent Technology to Support Human Organizations", H. Chalupsky, Y. Gil, C. A. Knoblock, K. Lerman, J. Oh, D. V. Pynadath, T. A. Russ, and M. Tambe. Proceedings of the Thirteenth Annual Conference of Innovative Applications of Artificial Intelligence (IAAI-2001), Seattle, WA, August 2001.
15. "Knowledge Analysis on Process Models," Jihie Kim and Yolanda Gil, Proceedings of the Seventeenth International Joint Conference on Artificial Intelligence (IJCAI-2001), Seattle, WA, August 2001.
16. "Knowledge Entry as Graphical Assembly of Components", Peter Clark, John Thompson, Ken Barker, Bruce Porter, Vinay Chaudhi, Andres Rodriguez, Jerome Thomere, Sunil Mishra, Yolanda Gil, Pat Hayes, and Thomas Reichherzer. Proceedings of the First International Conference on Knowledge Capture (K-CAP'01), Victoria, BC, October 2001.
17. "A Comparison of (Semantic) Markup Languages", Varun Ratnakar and Yolanda Gil. Proceedings of the 15th International FLAIRS Conference, Special Track on Semantic Web, Pensacola, FL, May 2002.

18. "Deriving Acquisition Principles from Tutoring Principles", Jihie Kim and Yolanda Gil. Proceedings of the Intelligent Tutoring Systems Conference (ITS), Biarritz, France, June 2002.
19. "Trusting Information Sources One Citizen at a Time", Yolanda Gil and Varun Ratnakar. Proceedings of the First International Semantic Web Conference (ISWC), Sardinia, Italy, June 2002.
20. "Interactive Knowledge Acquisition Tools: A Tutoring Perspective", Yolanda Gil and Jihie Kim. Proceedings of the 24th Annual Meeting of the Cognitive Science Society (CogSci), Fairfax, VA, August 8-10, 2002.
21. "IKRAFT: Interactive Knowledge Representation and Acquisition from Text", Yolanda Gil and Varun Ratnakar. Proceedings of the 13th International Conference on Knowledge Engineering and Knowledge Management (EKAW), Siguenza, Spain, October 1-4, 2002.
22. "TRELLIS: An Interactive Tool for Capturing Information Analysis and Decision Making", Yolanda Gil and Varun Ratnakar. Proceedings of the 13th International Conference on Knowledge Engineering and Knowledge Management (EKAW), Siguenza, Spain, October 1-4, 2002.
23. "The Role of Planning in Grid Computing", Jim Blythe, Ewa Deelman, Yolanda Gil, Carl Kesselman, Amit Agarwal, Gaurang Mehta, Karan Vahi. Proceedings of the 13th International Conference on Automated Planning and Scheduling (ICAPS), June 9-13, 2003, Trento, Italy.
24. "Proactive Acquisition from Tutoring and Learning Principles", Jihie Kim and Yolanda Gil. Proceedings of the 11th International Conference on Artificial Intelligence in Education (AI-ED), July 20-24, 2003, Sydney, Australia.
25. "Transparent Grid Computing: A Knowledge-Based Approach", Jim Blythe, Ewa Deelman, Yolanda Gil, Carl Kesselman. Proceedings of the 15th Annual Conference on Innovative Applications of Artificial Intelligence (IAAI), August 12-14, 2003, Acapulco, Mexico.
26. "A Knowledge Acquisition Tool for Course of Action Analysis", K. Barker, J. Blythe, G. Borchardt, V. Chaudhri, P. Clark, P. Cohen, J. Fitzgerald, K. Forbus, Y. Gil, B. Katz, J. Kim, G. King, S. Mishra, K. Murray, C. Otstott, B. Porter, R. Schrag, T. Uribe, J. Usher, P. Yeh. Proceedings of the 15th Annual Conference on Innovative Applications of Artificial Intelligence (IAAI), August 12-14, 2003, Acapulco, Mexico.
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30. "Incremental Formalization of Document Annotations through Ontology-Based Paraphrasing", Jim Blythe and Yolanda Gil. Proceedings of the Thirteenth International World Wide Web Conference, (WWW), New York, NY, May 17-22, 2004.
31. "Artemis: Integrating Scientific Data on the Grid", Rattapoom Tuchinda, Snehal Thakkar, Yolanda Gil, and Ewa Deelman. Proceedings of the 16th Annual Conference on Innovative Applications of Artificial Intelligence (IAAI), San Jose, CA, July 25-29, 2004.
32. "Pegasus: Mapping Scientific Workflows onto the Grid", Ewa Deelman, Jim Blythe, Yolanda Gil, Carl Kesselman, Gaurang Mehta, Sonal Patil, Mei-Hui Su, Karan Vahi, and Miron Livny. Across Grids Conference, Nicosia, Cyprus, 2004.
33. "User Interfaces with Semi-Formal Representations: A Study of Designing Argumentation Structures", Tim Chklovski Yolanda Gil. Proceedings of the 2005 International Conference on Intelligent User Interfaces (IUI-2005), San Diego, CA, January 2005.
34. "Task Scheduling Strategies for Workflow-Based Applications in Grids", Jim Blythe, Sonal Jain, Ewa Deelman, Yolanda Gil, Karan Vahi, Anirban Mandal, and Ken Kennedy. Proceedings of the Fifth IEEE International Symposium on Cluster Computing and the Grid (CCGRID), Cardiff, UK, May 2005.
35. "An Analysis of Knowledge Collected from Volunteer Contributors", Tim Chklovski and Yolanda Gil. Proceedings of the Twentieth National Conference on Artificial Intelligence (AAAI-05), Pittsburgh, PA, July 9-13, 2005.
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37. "Virtual Metadata Catalogs: Augmenting Metadata Catalogs with Semantic Representations", Yolanda Gil, Varun Ratnakar, and Ewa Deelman. Short paper at the Fourth International Semantic Web Conference (ISWC-05), Galway, Ireland, November 7-10, 2005.
38. "Towards Content Trust of Web Resources", Yolanda Gil and Donovan Artz. Proceedings of the Fifteenth International World Wide Web Conference, (WWW-06), Edinburgh, Scotland, May 23-26, 2006.
39. "Semantic Metadata Generation for Large Scientific Workflows", Jihie Kim, Yolanda Gil, and Varun Ratnakar. Proceedings of the Fifth International Semantic Web Conference (ISWC-06), Athens, GA, November 5-9, 2006.

40. "Wings for Pegasus: Creating Large-Scale Scientific Applications Using Semantic Representations of Computational Workflows", Yolanda Gil, Varun Ratnakar, Ewa Deelman, Gaurang Mehta, and Jihie Kim. Proceedings of the 19th Annual Conference on Innovative Applications of Artificial Intelligence (IAAI-07), Vancouver, British Columbia, Canada, July 22-26, 2007.
41. "Towards Intelligent Assistance for To-Do Lists", Yolanda Gil and Varun Ratnakar. Proceedings of the 2008 International Conference on Intelligent User Interfaces (IUI-2008), Canary Islands, Spain, January 2008.
42. "Automating To-Do Lists for Users: Interpretation of To-Dos for Selecting and Tasking Agents." Yolanda Gil and Varun Ratnakar. Proceedings of the Twenty-Third Conference of the Association for the Advancement of Artificial Intelligence (AAAI-08), Chicago, IL, July 13-17, 2008.
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1. "Learning New Planning Operators by Exploration and Experimentation." Yolanda Gil. Proceedings of the AAAI Workshop on Learning Action Models, Washington, DC, July 1993.
2. "EXPECT: Intelligent Support for Knowledge Base Refinement." Cécile Paris, Yolanda Gil. Proceedings of the 7th European Workshop on Knowledge Acquisition for Knowledge-Based Systems, Springer-Verlag, September 1993.
3. "On Analyzing Planning Applications." Yolanda Gil and Marc Linster. AAAI Fall Symposium on Planning and Learning: On to Real Applications, New Orleans, LA, November 1994.
4. "Applying a General-Purpose Planning and Learning Architecture to Process Planning." Yolanda Gil and Alicia Perez. AAAI Fall Symposium on Planning and Learning: On to Real Applications, New Orleans, LA, November 1994.
5. "Domain-Specific Criteria to Direct and Evaluate Planning Systems." Yolanda Gil, Mark Hoffman, and Austin Tate. Proceedings of the 1994 Workshop of the Arpa/Rome Laboratories Planning Initiative, Tucson, AZ, February 21-25, 1994.
6. "Handbook of Evaluation for the ARPA/Rome Laboratory Planning Initiative," Paul Cohen, Tom Dean, Yolanda Gil, Matt Ginsberg, and Lou Hoebel. Proceedings of the 1994 Workshop of the Arpa/Rome Laboratories Planning Initiative, Tucson, AZ, February 21-25, 1994.
7. "Dimensions to Analyze Applications." Yolanda Gil and Marc Linster. Proceedings of the Ninth Knowledge Acquisition for Knowledge-Based Systems Workshop, Banff, Alberta, Canada, February 26-March 3, 1995.

8. "Transaction-Based Knowledge Acquisition: Complex Modifications Made Easier." Yolanda Gil and Marcelo Tallis. In Proceedings of the Ninth Knowledge Acquisition for Knowledge-Based Systems Workshop, Banff, Alberta, Canada, February 26-March 3, 1995.
9. "EXPECT: Explicit Representations for Flexible Acquisition." Bill Swartout and Yolanda Gil. In Proceedings of the Ninth Knowledge Acquisition for Knowledge-Based Systems Workshop, Banff, Alberta, Canada, February 26-March 3, 1995.
10. "Acquiring Criteria for Plan Quality Control." Brian Drabble, Yolanda Gil, and Austin Tate. AAAI Spring Symposium on Planning Applications, Stanford, CA, March 1995.
11. "Flexible Knowledge Acquisition Through Explicit Representation of Knowledge Roles." Bill Swartout and Yolanda Gil. AAAI Spring Symposium on Acquisition, Learning, and Demonstration: Automating Tasks for Users, Stanford, CA, March 1996.
12. "Subsumption-Based Matching: Bringing Semantics to Goals." Yolanda Gil and Pedro Gonzalez. Proceedings of the International Workshop on Description Logics (DL-96), Cambridge, MA, pp 116-118, November 2-4 1996.
13. "Representing Capabilities of Problem-Solving Methods." William Swartout, Yolanda Gil, and Andre Valente. Proceedings of 1999 IJCAI Workshop on Ontologies and Problem-Solving Methods.
14. "Knowledge Acquisition for Configuration Tasks: The EXPECT Approach." Surya Ramachandran and Yolanda Gil. Proceedings of the AAAI Workshop on Configuration, 1999.
15. "Knowledge Acquisition using an English-Based Method Editor." Jim Blythe and Surya Ramachandran. Proceedings of the Tenth Knowledge Acquisition for Knowledge-Based Systems Workshop (KAW-99), Banff, Alberta, Canada, 1999.
16. "A Problem-Solving Method for Plan Evaluation and Critiquing." Jim Blythe and Yolanda Gil. Proceedings of the Twelfth Banff Knowledge Acquisition for Knowledge-Based Systems Workshop (KAW-99), Banff, Alberta, Canada, 1999.
17. "User Studies of Knowledge Acquisition Tools: Methodology and Lessons Learned." Marcelo Tallis and Jihie Kim and Yolanda Gil. Proceedings of the Twelfth Banff Knowledge Acquisition for Knowledge-Based Systems Workshop (KAW-99), Banff, Alberta, Canada, April 1999.
18. "On the Role of Humans in Enterprise Control Systems: the Experience of INSPECT." Andre Valente, Jim Blythe, Yolanda Gil, and William Swartout. In First DARPA-JFACC Symposium on Advances in Enterprise Control, San Diego, CA, November 1999.
19. "Subsumption-Based Matching: Bringing Semantics to Goals." Yolanda Gil and Pedro A. Gonzalez. In 1996 International Workshop on Description Logics (DL-96), Boston, MA, November 2-4, 1996.

20. "PLANET: A Shareable and Reusable Ontology for Representing Plans." Yolanda Gil and Jim Blythe. In AAAI 2000 Workshop on Representational Issues for Real-world Planning Systems. Austin, TX, July 31, 2000.
21. "Acquiring Procedural Knowledge in EXPECT." Yolanda Gil, Jim Blythe, Jihie Kim and Surya Ramachandran. In AAAI 2000 Fall Symposium on Learning How to Do Things, November 2000.
22. "Electric Elves: Immersing an Agent Organization in a Human Organization," David Pynadath, Milind Tambe, Yigal Arens, Hans Chalupsky, Yolanda Gil, Craig Knoblock, Hukyong Lee, Kristina Lerman, Jean Oh, Surya Ramachandran, Paul Rosenbloom, and Thomas Russ. Proceedings of the AAAI Fall Symposium on Socially Intelligent Agents – The Human in the Loop, November 2000.
23. "How Can a Structured Representation of Capabilities Help in Planning?" Yolanda Gil and Jim Blythe. In AAAI 2000 Workshop on Representational Issues for Real-world Planning Systems. Austin, TX, July 31, 2000.
24. "Planning and Metadata on the Computational Grid," James Blythe, Ewa Deelman and Yolanda Gil. AAAI Spring Symposium on Semantic Web Services, Stanford, CA, March 2004.
25. "Towards Interactive Composition of Semantic Web Services", Jihie Kim and Yolanda Gil. AAAI Spring Symposium on Semantic Web Services, Stanford, CA, March 2004.
26. "A Knowledge-Based Approach to Interactive Workflow Composition," Jihie Kim, Yolanda Gil, and Marc Spraragen. Proceedings of the ICAPS Workshop on Planning and Scheduling for Grid and Web Services, Whistler, Canada, 2004.
27. "Towards Managing Knowledge Collection from Volunteer Contributors", Tim Chklovski and Yolanda Gil. Proceedings of the 2005 AAAI Spring Symposium on Knowledge Collection from Volunteer Contributors (KCVC), Stanford, CA, March 2005.
28. "Organizing Argumentation Statements to Support Intelligence Analysis," Tim Chklovski, Jihie Kim, and Yolanda Gil. Proceedings of the IUI Workshop on Intelligent User Interfaces for Intelligence Analysis, Sydney, Australia, January 2006.
29. "Metadata Catalogs with Semantic Representations." Yolanda Gil, Varun Ratnakar, Ewa Deelman. International Provenance and Annotation Workshop (IPAW) Chicago, IL, USA, May 3-5, 2006, Lecture Notes in Computer Science 4145 Springer 2006, ISBN 3-540-46302-X.
30. "Wings for Pegasus: A Semantic Approach to Creating Very Large Scientific Workflows", Yolanda Gil, Varun Ratnakar, Ewa Deelman, Marc Spraragen, and Jihie Kim. Proceedings of the OWL: Experiences and Directions 2006 (OWLED-06), Athens, GA, November 10-11, 2006.
31. "Managing Large-Scale Scientific Workflows in Distributed Environments: Experiences and Challenges", Ewa Deelman and Yolanda Gil. Proceedings of the

- Workshop on Scientific Workflows and Business Workflow Standards in e-Science, The Second IEEE International Conference on e-Science and Grid Computing, Amsterdam, The Netherlands, December 4-6, 2006.
32. "Enhancing Interaction with To-Do Lists Using Artificial Assistants", Yolanda Gil and Timothy Chklovski. AAI Spring Symposium on Interaction Challenges for Artificial Assistants, Stanford, CA, March 26-28 2007.
  33. "On the Black Art of Designing Computational Workflows", Yolanda Gil, Pedro A. Gonzalez-Calero, Ewa Deelman. Proceedings of the Second Workshop on Workflows in Support of Large-Scale Science (WORKS'07), in conjunction with the IEEE International Symposium on High Performance Distributed Computing Monterrey, CA, June 2007.
  34. "Towards Privacy Aware Data Analysis Workflows for e-Science", William Cheung and Yolanda Gil. 2007 Workshop on Semantic e-Science (SeS2007), held in conjunction with the Twenty-Second Conference of the Association for the Advancement of Artificial Intelligence (AAAI), Vancouver, British Columbia, Canada, July 22-26, 2007.
  35. "Privacy Enforcement in Data Analysis Workflows", Yolanda Gil, William K. Cheung, Varun Ratnakar, and Kai-kin Chan. 2007 Workshop on Privacy Enforcement and Accountability with Semantics (PEAS'07), held in conjunction with the Sixth International Semantic Web Conference (ISWC'07) and the Second Asian Semantic Web Conference (ASWC'07), Busan, Korea, November 11-15, 2007.
  36. "Scaffolding Instructions to Learn Procedures from Users." Paul Groth and Yolanda Gil. To appear in AAI Spring Symposium on Agents that Learn from Human Teachers, Stanford, CA, March 23-25, 2009.