Amit P. Sheth

Research Areas

Data/Information/Knowledge Integration and Analysis; Semantic Web and Semantic Applications (knowledge discovery and intermediation, multi-ontology and complex relations, search/directory/personalization/analytics, business intelligence, etc.), Management of Rich Media Content and Information Sources, Digital Libraries, Pan-Web and Enterprise Information Interoperability (incl. federated information systems, multi-agent and

information brokering architectures, ontology and metadata management), Web and Business Processes (Semantic Web Services/Processes, Workflow Management, Autonomic/Adaptable/Dynamic Web/Business Processes, Semantic Social Networks, eCommerce/eService/eScience). Significant collaborations and applications in Bioinformatics/Life Science, Health Care, GIS, Financial, and National Security domains.

Education

Ph.D.	1985	Ohio State University	Computer & Information Science
MS	1983	Ohio State University	Computer & Information Science
BE (Hons)	1981	Birla Institute of Tech. & Science Pilani, India	Electrical & Electronics Engineering

Academic Positions/Appointments

Jan 2007 –	LexisNexis Ohio Eminent Scholar, Wright State University, Dayton, OH Professor, computer Science & Engineering. Director, Kno.e.sis Center
1994 – Dec 2006	Director, Large Scale Distributed Information Systems (LSDIS) Lab, Athens, GA
1998 – Dec 2006	Professor, Department of Computer Science, University of Georgia, Athens, GA (on partial sabbatical during 2000 and 2001). Also, Member, Institute of Bioinformatics, UGA (2004–2006), Member, Biomedical & Health Sciences Institute, UGA (2005–2006), and Member/Professor, Faculty of Engineering, University of Georgia (2001–2006)
1994 – 1998	Associate Professor, Department of Computer Science, University of Georgia, Athens, GA
May 93 – June 93	Visiting Faculty, Institute of Information Systems, ETH (Swiss Federal Institute of Technology), Zurich, Switzerland
1983 – 1984	Graduate Research Associate, Computer & Information Science Dept., Ohio State University
1981 – 1983	Graduate Teaching Associate, Computer & Information Science Dept., Ohio State University

Entrepreneurship and Industry Employment

Aug 2002 – May 2006	Co-founder/CTO (part time) Semagix, Inc.
June 2001 – Aug 2002	Co-founder/CTO/Exec.VP/, Voquette, Inc. (Merger led to Semagix)
Aug 1999 – May 2001	Founder, Chairman and CEO, Taalee, Inc. (Acquired by Voquette)
1997 – present	Founder and President, Infocosm Inc., S-Corporation, Georgia
1989 – 1994	Member of Technical Staff, Systems Principles & Research, Morristown, NJ and Computer Systems Integration, Bell Communications Research, Bell Communications Research (Bellcore) Inc., Piscataway, NJ
1987 – 1989	Staff Research Scientist, UNISYS West Coast Research Center (formerly SDC), Santa Monica, CA
1985 – 1987	Principal Research Scientist, Computer Sciences Center, Honeywell, Minneapolis, MN

Keynote and Plenary Invited Talks at International Conferences/Workshops and Significant National/International Meetings

1. "Realizing the Relationship Web: Morphing information access on the Web from today's document- and entity-centric paradigm to a relationship-centric paradigm," Keynote address, ACM Multimedia 2007 International Workshop: The Many Faces of Multimedia Semantics, Augsburg, Germany, September 28, 2007.

2. "Semantics to Empower Services Science: Using Semantics at Middleware, Web Services and Business Levels," Keynote address, 9th International Conference on Enterprise Information Systems (ICEIS2007), Funchal, Portugal, June 12–16, 2007.

3. "Driving Deep Semantics in Middleware and Networks: What, why and how?" Keynote address, Semantic Sensor Networks Workshop, 5th International Semantic Web Conference (ISWC-2006), Athens, GA, November 6, 2006.

4. "{Ontology: Resource} x {Matching : Mapping} x {Schema : Instance} :: Components of the same challenge," Keynote address, International Workshop on Ontology Matching (OM-2006), 5th International Semantic Web Conference (ISWC-2006), Athens, GA, November 5, 2006,

5. "Semantics to energize the full services spectrum: Ontological approach to better exploit services at technical and business levels," Biennial Beta Conference, 2006: Management of Service Operations, Eindhoven, Netherlands, September 14–15, 2006.

6. "Semantic Web applications in Financial Industry, Government, Health Care and Life Sciences," AAAI Spring Symposium on Semantic Web Meets eGovenment, Stanford University, Palo Alto, CA, March 28, 2006.

7. "Semantics Enabled Industrial and Scientific Applications: Research, Technology and Deployed Applications," 1st Online Metadata and Semantic Research Conference, November 21–30, 2005.

8. "Semantics for Scientific Experiments and the Web: The implicit, the formal and the powerful," Featured talk, BISCSE 2005: Forging New Frontiers, Berkeley CA, November 2–6, 2005.

9. "Semantic Web and Semantic Web Services: From Research and Technology to Deployed Applications for Enterprises and Scientific Research," Keynote address, IFIP Working Conference on Industrial Applications of Semantic Web (IASW-2005), Jyväskylä, Finland, August 25–27, 2005.

10. "Web Services to Semantic Web processes: Investigating Synergy between Practice and Research," Keynote address, 1st European Young Researchers Workshop on Service Oriented Computing, Leicester, UK, April 21, 2005. (Abstract, Presentation)

11. "Semantics Powered Bioinformatics: Semantic Search, Integration, Processes and Analytics," Plenary invited talk at 2003 BISC FLINT-CIBI International Joint Workshop on Soft Computing for Internet and Bioinformatics, Berkeley, CA, December 16, 2003,

12. "What can Semantic do for Bioinformatics," Keynote address, Russian Conference on Digital Libraries (RCDL 2003), Saint Petersburg, Russia, October 29, 2003.

13. "Semantics for Bioinformatics: What, Why and How of Search, Integration and Analysis," Semantic Web Technologies for Science and Engineering Workshop, Sanibel Island, FL, October 20, 2003.

14. "Semantic Web in Action (also known as Ontology-driven information search, integration and analysis)," Net Object Days 2003 and MATES03, Erfurt, Germany, September 23, 2003.

15. "From Semantic Search to Analytics and Discovery on heterogeneous content: Changing focus from Documents and Entities to Relationships," Keynote address, 1st International Workshop on Semantic Web and Databases, September 8, 2003.

16. "Semantic Web Process Lifecycle: Role of Semantics in Annotation, Discovery, Composition and Orchestration," Invited talk, WWW 2003 Workshop on E-Services and the Semantic Web, Budapest, Hungary, May 20, 2003.

17. "Ontology Driven Information Systems in Action (Capturing and Applying Existing Knowledge to Semantic Applications)," Invited talk, Sharing the Knowledge- International CIDOC CRM Symposium, Washington, DC, March 26–27, 2003,

18. "Relationships at the Heart of Semantic Web: Modeling, Discovering, Validating and Exploiting Complex Semantic Relationship," Keynote address, 29th Annual Conference on Current Trends in Theory and Practice of Informatics (SOFSEM 2002), Czech Republic, November 25, 2002.

19. "Semantic Content Management for Enterprises and National Security," Keynote address at invited session: Content and Semantic-based Information Retrieval, 6th World Multi-conference on Systemics, Cybernetics, and Informatics (SCI 2002), Orlando, FL, July 14, 2002.

20. "Content Management, Metadata, and Semantic Web," Inaugural keynote address, NetObjectDAYS, Erfurt, Germany, September 11, 2001.

21. "Semantic Web and Information Brokering: Opportunities, Early Commercialization, and Challenges," Keynote address, Workshop on Semantic Web: Models, Architectures and Management, Lisbon, September 21, 2000

22. "Information Brokering in Digital Media," Keynote address, 3rd International Workshop on Cooperative Information Agents CIA-99, Uppsala, Sweden, July 31–August 2, 1999.

23. "Semantic Interoperability and Information Brokering in Global Information Systems," Keynote address, 3rd IEEE Metadata Conference, Bethesda, MD, April 6–7, 1999.

24. "Workflow Process management and Enterprise Application Integration in Healthcare," Keynote address, IEEE Workshop on Enterprise Networking and Computing in Healthcare Industry (Healthcom 99), Sydney Australia, January 11, 1999.

25. "Real-World Relevant Research Challenges in Workflow," Keynote address, EDBT Workshop on Workflow Management Systems, Valencia, Spain, March 27–28, 1998.

26. "Pragmatics Driven Research Issues in Data and Process Integrity in Enterprises," Keynote address, IFIP WG 11.5 Conference on Integrity and Control in Information Systems, Zurich, Switzerland, December 4–5, 1997.

27. "Search, Access, Analysis and Fusion of Heterogeneous Information Sources: The InfoQuilt Approach," Keynote address, International Conference on Interoperating Geographical Information Systems (Interop '97), Santa Barbara, CA, December 3, 1997.

28. "From Contemporary Workflow Process Automation to Adaptive and Dynamic Work Activity Coordination and Collaboration," Keynote address, Workshop on Workflows in Scientific and Engineering Applications, Toulouse, France, September 1997.

29. "Schemata for Interoperable Database Systems" and "So Far (Schematically) yet So Near (Semantically)," Keynote address, IFIP DS-5 Conference on Semantics of Interoperable Database Systems, Lorne, Australia, November 1992.

Conference and Workshop Invited Talks

30. "Trailblazing, Complex Hypothesis Evaluation, Abductive Inference and Semantic Web— exploring possible synergy," **ARO Workshop on Abductive Reasoning, Reasoning, Evidence and Intelligent Systems, Adelphi, MD, August 23–24, 2007.**

31. "Relationship Web: Realizing the Memex vision with the help of Semantic Web," SemGrail 2007, Redmond, WA, June 21–22, 2007.

32. "Semantic Annotations for WSDL," with Jacek Kopecksy (DERI Innsbruck), W3C Track at the 16th World Wide Web Conference (WWW2007), Banff, Canada, May 10, 2007.

33. "Semantic empowerment of Life Science Applications," Microsoft eScience Workshop, Cincinnati Children Hospital & Medical Center, October 14, 2006.

34. "Semantic empowerment of Health Care and Life Science Applications," W3C track at the 15th International World Wide Web Conference (WWW2006), Edinburgh, Scotland, May 26, 2006. (Presentation)

35. "Semantic Web applications in Financial Industry, Government, Health care and Life Sciences," Taxonomies and Semantic Technologies for S&T Analysis Conference, The MITRE Corporation, March 17, 2006.

36. "Active Semantic Electronic Patient Records," Semantic Technology Conference, San Jose, CA, March 7, 2006.

37. "Autonomic Web Process," vision paper presented at the 3rd International Conference on Service Oriented Computing, Amsterdam, Netherlands, December 13, 2005.

38. "Semantic Technology in the Real World: Experiences and Lessons based on Enterprise Semantic Applications," Semantic Technology Conference 2005, San Francisco, CA, March 8, 2005.

39. "Semantic Web Technology in Support of Bioinformatics for Glycan Expression," W3C Workshop on Semantic Web for Life Sciences, Cambridge, MA, October 28, 2004.

40. "From Semantic Search & Integration to Analytics," KMWorld 2004, Santa Clara, CA, October 26–28, 2004.

41. "Semantic Technology in the Real World: Experiences and Lessons based on Commercialization of Academic Research & Industry Applications," Dagstuhl Seminar on Semantic Interoperability and Integration, Dagstuhl, Germany, September 21, 2004.

42. "Semantic Web Technology Ontology Testbed," Ontology in Action Workshop, Banff, Canada, June 21, 2004.

43. "Semantic Visualization: Interfaces for exploring and exploiting ontology, knowledgebase, heterogeneous content and complex relationships, NASA Virtual Iron Bird Workshop, Monterey, CA, April 2, 2004.

44. "Ontology-driven Integration and Analysis for Semantic Applications in Business Intelligence and National Security," Ontology and Semantic Web Technical Exchange Meeting, MITRE Corporation, McLean, VA, June 12–13, 2003.

45. "Database and Information Systems Research for Semantic Web and Enterprises: Review of the Amicalola Workshop," and "Snapshot of the Semantic Web Commercial State of the Art," Invited talk, Science on the Semantic Web, Building a New Generation of Environmental Information Systems, Rutgers University, Newark, NJ, October 24, 2002.

46. "Process Composition: Quality of Service Specification Semantics, and Adaptation," Invited talk, EI3-IC workshop on Interoperability of Business Processes and Enterprise Models, Gaithersburg, MD, February 6–8, 2002.

47. "Semantic Content Annotation and Applications: Semantic Web Now and Challenges Ahead," Invited talk, 2001 IRC International Conference on Internet Information Retrieval, Seoul, South Korea, October 29, 2001.

48. "On Supporting Complex Relationships and Knowledge Discovery in the Semantic Web," Plenary Invited talk, 2001 BISC International Workshop on Fuzzy Logic and the Internet: New Directions in Enhancing the Power of the Internet, Berkeley, CA, August 16, 2001.

49. "Information Scapes: A Paradigm for Knowledge Discovery in Semantic Web," Inaugural session ivited talk, IJCAI-2001 Workshop on Knowledge Discovery from Distributed, Dynamic, Heterogeneous, Autonomous Data and Knowledge, Sources, Seattle, WA, August 6, 2001.

50. "Workflow and Process Automation in Information Systems: A Proposal for a Multidisciplinary Research agenda and Follow-up," Invited talk, NSF Invitational Workshop on Distributed Information, Computation, and Process Management for Scientific and Engineering Environments, Virginia, May 15–16, 1998.

51. "From Process Modeling to Workflow Automation," Invited talk, National Institute of Standards and Technology sponsored Process Information Technology Workshop, Gaithersburg, MD, March 13, 1998.

52. "Workflow Applications to Research Agenda: Scalable and Dynamic Work Coordination and Collaboration Systems," Invited talk (with K. Kochut), NATO Workshop on Advances in Workflow Management Systems and Interoperability, Istanbul, Turkey, August 1997.

53. "Overview of Workflow Research and Technology," Invited talk, DARPA Collective Actions Tools Workshop, March 1996.

54. "From Data Dirt Roads to Infocosm," Inaugural session invited talk, 7th International Conference on Management of Data, Pune, India, December 1995.

Chief Guest/Speaker at Special Events

55. "Semantic Web: Promising Technologies and Current Applications," Invited talk at the Reed Elesvier EPIC Conference, Toronto, Canada, October 9, 2007.

56. "Semantic Web applications in Industry, Government, Health Care and Life Sciences," Invited talk at meeting of the Greater Dayton IT Alliance, Dayton, OH, April 18, 2007.

57. "Semantic Web applications in Industry, Government, Health Care and Life Sciences," Keynote address at the daytaOhio-organized conference "From Research to Reality," Wright State University, Dayton, OH, October 27, 2006.

58. "Semantics to energize the full Services Spectrum: Ontological approach to better exploit services at technical and business levels," Talk at the inauguration invitational event for Research School on Services-oriented Systems Engineering, Hasso-Plattner-Institute, Potsdam, Germany, June 22, 2006.

59. "Realizing Semantic Information Brokering and Semantic Web," Invited talk, Perspectives on Agents: Theories and Technologies Seminar Series, Universita degli Studi di Trento, Trento, Italy, April 27, 2000.

60. "An Overview of Workflow Management: From Process Modeling to Workflow Automation," CERN-wide Computing Colloquium, CERN, Geneva, Switzerland, March 31, 1998.

61. "Workflow Management: Technology, Experiences and Research," special university-industry seminar, Universidade Nove de Lisboa, Lisbon, Portugal, March 25, 1998.

62. "Information (Super) Highway: New Opportunities for Global Competitive Advantage for Developing Countries," city-wide talk organized by Ahmedabad Management Association, India, August 26, 1996.

63. "Multidatabase Systems: Research and Reality," invited guest speaker at the 1st Symposium of the Tsukuba Advanced Research Alliance (TARA), Tsukuba, Japan, March 4, 1995.

64. "Information By-Ways, Lanes, and Superhighway," city-wide talk organized by the Ahmedabad Management Association, Ahmedabad, India, December 1994.

65. Special guest and speaker at the UBILAB Workshop on Data Management Scenarios at Union Bank of Switzerland, Zurich, April 28, 1993.

66. Primary speaker for the Workshop on Federated Database Systems (for the members of CRAI consortium), CRAI, Render, Italy, March 23–24, 1992. Presented and led discussions for 21 hours.

Publications

Book Series Editorship

1. Ramesh Jain and Amit Sheth (Eds.), Semantic Web and Beyond: Computing for Human Experience, Springer, started 2005. Currently seven volumes in this series.

2. Ahmed Elmagamid and Amit Sheth (Eds.), Advances in Database Systems, Springer. Prof. Sheth joined as co-editor in July 2007.

Books Authored or Co–Authored

3. K. Verma, A. Sheth, S. Oundhakar, K. Sivashanmugam, and J. Miller, Allowing the Use of Multiple Ontologies for Discovery of Web Services in Federated Registry Environment, Advances in Web Services Research: Web Services Research and Practices, vol. 2, IGI Global, 2007.

4. V. Kashyap and A. Sheth, Information Brokering across Heterogeneous Digital Data, Kluwer Academic Publishers, August 2000, 248 pp.

Books Edited and Co–Edited

5. A. Sheth and M. Lytras (Eds), Semantic Web-Based Information Systems: State-of-the-Art Applications, CyberTech Publishers/Idea Group, 2007, 317 pp. ISBN 1-59904-426-9 (hardcover), 1-59904-427-7 (softcover)

6. J. Cardoso and A. Sheth (Eds.), Semantic Web Services, Processes and Applications, Springer, 2006, 405 pp. ISBN 0-38730239-5

7. A. Sheth and W. Klas (Eds.), Multimedia Data Management: Using Metadata to Integrate and Apply Digital Data, McGraw Hill, 1998, 385 pp.

8. A. Elmagarmid, M. Rusinkiewicz, and A. Sheth (Eds.), Heterogeneous Distributed Database Systems, Morgan Kaufmann Publishers, 1998, 400 pp.

9. A. Dogac, L. Kalinechenko, T. Ozsu, and A. Sheth (Eds.), Workflow Management Systems and Interoperability, NATO ASI Series F, vol. 164, Springer, 1998, 524 pp.

Editorship of International Conference and Workshop Proceedings

10. S. Dustdar, J. Fiadeiro, and A. Sheth (Eds.), Business Process Management, 4th International Conference, BPM2006, Vienna, Austria, September 2006, Lecture Notes in Computer Science, vol. 4102, Springer, 486 pp.

11. S. Battle, J. Domingue, D. Martin, D. Roman, A. Sheth (Eds.), Advances in Semantics for Web Services (semantics4ws 2006), BPM Workshops, Vienna, Austria, September 2006, Lecture Notes in Computer Science, vol. 4103, Springer, pp. 431–506.

12. P. Doshi, R. Goodwin, and A. Sheth, AI-Driven Technologies for Services-Oriented Computing: Papers from the 2006 AAAI Workshop, AAAI Press, July 16, 2006, 92 pp. ISBN 978-1-57735-283-9

13. A. Abecker, A. Sheth, G. Mentzas, and L. Stojanovic, Semantic Web Meets eGovernment: Papers from the AAAI Spring Symposium, Menlo Park, CA, March 27–29, 2006, TR SS-06-06, AAAI Press, 2006, 150 pp. ISBN 978-1-57735-267-9

14. K. Verma, A. Sheth, M. Zaremba, and C. Bussler, Proceedings of the International Workshop in Dynamic Web Processes (DWP 2005), Amsterdam, Netherlands, December 12, 2005. Available as IBM report RC23822, 96 pp.

15. Y. Kalfoglou, M. Schorlemmer, M. Uschold, A. Sheth, and S. Staab, Proceedings of the Dagstuhl Seminar 04391on Semantic Interoperability and Integration, Internationales Begegnungs- und Forschungszentrum (IBFI), Schloss Dagstuhl, Germany, January 1, 2005.

16. Jorge Cardoso and Amit P. Sheth (Eds.), Semantic Web Services and Web Process Composition: 1st International Workshop, SWSWPC 2004, San Diego, CA, July 6, 2004, Revised Selected Papers, Lecture Notes in Computer Science, vol. 3387, Springer, 2005, viii, 147 pp. ISBN 3-540-24328-3 (softcover), 978-3-540-24328-1

17. A. Sheth, and K. Jeffery (Eds.), 2004 IEEE International Conferences on Services Computing, Shanghai, China, September 15–18, 2004, 653 pp.

18. A. Sheth and R. Meersman (Eds.), Proceedings of the NSF-EU Workshop on Database and Information Systems Research for Semantic Web and Enterprises, April 3–5, 2002, 111 pp.

19. S. Staab, S. Decker, D. Fensel and A. Sheth (Eds.), Proceedings of the 2nd International Workshop on the Semantic Web (SemWeb 2001), Hong Kong, May 1, 2001, 93 pp.

20. J. Hoppenbrouwers, T. Lima, M. Papazoglou, and A. Sheth, Proceedings of the IEEE Advances in Digital Libraries 2000 (ADL2000), May 22–24, 2000, IEEE Computer Society Press, 241 pp.

21. A. Sheth (Ed.), Proceedings of the NSF Workshop on Workflow and Process Automation in Information Systems, Athens, GA, May 1996, 164 pp.

22. H. Korth and A. Sheth (Eds.), Proceedings of the 3rd International Conference on Parallel and Distributed Information Systems, September 1994, IEEE Computer Society Press, 272 pp.

23. H-J. Schek, A. Sheth, and B. Czjedo (Eds.), Proceedings of the 3rd RIDE International Workshop on Interoperability in Multidatabase Systems ((RIDE IMS-93), Vienna, Austria, April 19–20, 1993, IEEE Computer Society Press, 279 pp.

24. Y. Kambayashi, M. Rusinkiewicz, and A. Sheth (Eds.), Proceeding of the 1st International Workshop on Interoperability in Multidatabase Systems, Kyoto, Japan, April 1991, IEEE Computer Society Press, 370 pp.

25. A. Sheth (Ed.), Proceedings of the Workshop on Management of Interdependent Data in Bellcore and BCCS, Bellcore, September 1990.

Editorship of Special Issues of Journals and Technical Society Magazines

26. D. Benslimane, S. Dudstar, and Amit P. Sheth (Eds.), special issue: Service Mashups, IEEE Internet Computing, 2008, forthcoming.
27. S. Dustdar, J. Fiadeiro, and A. Sheth (Eds.), special issue: Business Process Management, *Data & Knowledge Engineering* (Elsevier), 2008, forthcoming.
28. J. Davies, M. Lytras, and A. Sheth (Eds.), special issue: Semantic-Web-Based Knowledge Management, IEEE Internet Computing 11 (no. 5), September–October 2007.
29. N. Ashish, C. Goble, and A. Sheth (Eds.), special section: The Semantic Web and Science Data Interoperation, *International Journal on Digital Libraries* 5 (no. 2), April 2005.
30. R. Meersman and A. Sheth (Eds.), special issue: Semantic Web, Database Management and Information Systems, *ACM SIGMOD Record* 32 (no. 4), December 2002, pp. 10–70.
31. A. Ouksel and A. Sheth (Eds.), special issue: Semantic Interoperability in Global Information Systems, *ACM SIGMOD Record* 29 (no. 1), March 1999.
32. H. Korth and A. Sheth (Eds.), special issue: Selected Systems: Papers Based on the 3rd International Conference on Parallel and Distributed Information Systems, *VLDB* (*Very Large Data Bases) Journal* 5 (no. 1), January 1996, pp. 1–63.
33. W. Klas and A. Sheth (Eds.), special issue: Metadata for Digital Media, *ACM SIGMOD Record* 24 (no. 4), December 1994, pp. 19–71.
34. A. Sheth (Ed.), special issue: Semantic Issues in Multidatabase Systems, *ACM SIGMOD Record* 20 (no. 4), December 1991, pp. 5–80.

Chapters in Books

35. S. Tartir, I. B. Arpinar, and A. Sheth, "Ontology Evaluation and Validation," in *TAO— Theory and Applications of Ontologies*, Vol. 2, *Ontology*: *The Information-Science Stance,* Springer, forthcoming.
36. A. Sheth, S Agrawal, J. Lathem, N. Oldham, H Wingate, P. Yadav, and K. Gallegher, "Active Semantic Electronic Medical Records," in *The Semantic Web: Real World Applications from Industry,* Jorge Cardoso, Martin Hepp, and Miltiadis Lytras (Eds.), Springer, 2008, pp. 123–140. ISBN-13: 978-9-387-48530-0
37. F. Hakimpour, B. Aleman-Meza, M. Perry, and A. Sheth, "Spatiotemporal-Thematic Data Processing in Semantic Web," in *The Geospatial Web,* A. Scharl and K. Tochtermann (Eds.), Springer, May 2007.
38. M. Perry, A. Sheth, and I. B. Arpinar, "Geospatial and Temporal Semantic Analytics," in *Encyclopedia of Geoinformatics,* H. Karimia (Ed.), Idea Group, 2007. ISBN 1-59140-995-0
39. S. Sahoo, A. Sheth, W. York, and B. Hunter, "Semantic Biological Web Services Registry," in *Semantic Web: Revolutionizing Knowledge Discovery in the Life Sciences,* Christopher Baker and Kei-Hoi Cheung (Eds.), Springer, 2006.
40. B. Aleman-Meza, A. Sheth, D. Palaniswami, M. Eavenson, and I. B. Arpinar, "Semantic Analytics in Intelligence: Applying Semantic Association Discovery to Determine Relevance

of Heterogeneous Documents," in *Advanced Topics in Database Research*, vol. 5, K. L. Siau (Ed.), Idea Group Publishers, 2006, pp. 401–419.

41. J. Cardoso and A. Sheth, "The Semantic Web and its Applications," in *Semantic Web Services, Processes and Applications,* J. Cardoso and A. Sheth (Eds.), Springer, 2006, pp. 5–36.

42. K. Gomadam, K. Verma, A. Sheth, and K. Li, "Keywords, Port Types and Semantics: A Journey in the Land of Web Service Discovery," in *Semantic Web Services, Processes and Applications,* J. Cardoso and A. Sheth (Eds.), Springer, 2006, pp. 91–108.

43. K. Li, K. Verma, R. Mulye, R. Rabbani, J. Miller and A. Sheth, "Designing Semantic Web Processes: The WSDL–S Approach," in *Semantic Web Services, Processes and Applications,* J. Cardoso and A. Sheth (Eds.), Springer, 2006, pp. 163–198.

44. S. S. Sahoo and A. Sheth, "Bioinformatics applications of Web Services," in *Semantic Web Services, Processes and Applications,* J. Cardoso and A. Sheth (Eds.), Springer, 2006, p. 305–322.

45. A. Sheth, "Enterprise Application of Semantic Web: the Sweet Spot of Risk and Compliance," in *Industrial Applications of Semantic Web,* M. Bramer and V. Terziyan (Eds.), Springer, 2005, pp. 47–62.

46. N. Oldham, C Thomas, A Sheth, and K. Verma, "METEOR-S Web Service Annotation Framework with Machine Learning Classification," in *Semantic Web Services and Web Process Composition*, Lecture Notes in Computer Science, vol. 3387, Springer, January 2005, pp. 137–146.

47. P. Rajasekaran, J. Miller, K. Verma1, and A. Sheth "Enhancing Web Services Description and Discovery to Facilitate Composition," in *Semantic Web Services and Web Process Composition: 1st International Workshop,* Lecture Notes in Computer Science, vol. 3387, Springer, January 2005, pp. 55–68.

48. J. Cardoso and A. Sheth, "Introduction to Semantic Web Services and Web Process Composition," in *Semantic Web Services and Web Process Composition*, Lecture Notes in Computer Science, vol. 3387, Springer, January 2005, pp. 1–13.

49. M. Fisher and A. Sheth, "Semantic Enterprise Content Management," in *Practical Handbook of Internet Computing,* Munindar P. Singh (Ed.), Baton Rouge, LA: Chapman & Hall & CRC Press, 2004, pp. 9–1:9–21.

50. J. Arnold, H.–B. Schuttler, D. Logan, D. Battogtokh, J. Griffith, B. Arpinar, S. Bhandarkar, S. Datta, K. J. Kochut, E. Kraemer, J. A. Miller, A. Sheth, G. Strobel, T. Taha, B. Aleman-Meza, J. Doss, L. Harris, and A. Nyong. "Metabolomics," chapter 22 in *Handbook of Industrial Mycology*, New York: Marcel Dekker, 2004, pp 597–633.

51. A. Sheth, K. Sivashanmugam, J. Miller, K. Vermam R. Aggarwal, and P. Rajasekaran, "Metadata and Semantics for Web Services Processes," in *Databanken und Informationssyteme,* W. Benn, P. Dadam, S. Kim, and R. Unland (Eds.), Praktische Informatik I, FernUniversitat in Hagen, pp. 245–272.

52. A. Sheth, I. Budak Arpinar, and V. Kashyap, "Relationships at the Heart of Semantic Web: Modeling, Discovering, and Exploiting Complex Semantic Relationships," in *Enhancing the Power of the Internet Studies in Fuzziness and Soft Computing,* M. Nikravesh, B. Azvin, R. Yager, and L. Zadeh (Eds.), Springer, 2003, pp. 63–94.

53. R. David Hall, John A. Miller, Jonathan Arnold, Krys J. Kochut, Amit P. Sheth and Michael J. Weise, "Using Workflow to Build an Information Management System for a Geographically Distributed Genome Sequence Initiative," in *Genomics of Plants and Fungi,* R.A. Prade and H.J. Bohnert (Eds.), New York: Marcel Dekker, 2003, pp. 359–372.

54. B. Hammond, A. Sheth, and K. Kochut, "Semantic Enhancement Engine: A Modular Document Enhancement Platform for Semantic Applications over Heterogeneous Content," in *Real World Semantic Web Applications,* V. Kashyap and L. Shklar (Eds.), IOS Press, November 2002, pp. 29–49.

55. J. Cardoso, A. Sheth, and J. Miller, "Workflow Quality of Service," *in Enterprise Inter- and Intra-Organizational Integration*, K. Kosanke, R. Jochem, J.G. Nell, and A. Ortiz Bas (Eds.), Building International Consensus series, vol. 108, IFIP/Kluwer Academic Publishers, 2002, pp. 303–312.

56. S. Thacker, A. Sheth, and S. Patel, "Complex Relationships for the Semantic Web," in *Spinning the Semantic Web*, D. Fensel, J. Hendler, H. Liebermann, and W. Wahlster (Eds.), MIT Press, 2003, pp. 279–316.

57. J. Miller, A. Sheth, and K. Kochut, "Perspectives in Modeling: Simulation, Database and Workflow," in *Conceptual Modeling: Current Issues and Future Directions,* Selected Papers from the Workshop on Conceptual Modeling, P. Chen, J. Akoka, H. Kangassalo, and B. Thalheim (Eds.), Lecture Notes in Computer Science, vol. 1565,, Springer, April 1999, pp. 154–167.

58. A. Sheth, "Changing Focus on Interoperability in Information Systems: From System, Syntax, Structure to Semantics," in *Interoperating Geographic Information Systems*, M F. Goodchild, M.J. Egenhofer, R. Fegeas, and C.A. Kottman (Eds.), Kluwer, Academic Publishers, 1999, pp. 5–30.

59. V. Kashyap and A. Sheth, "Semantic Similarities between Objects in Multiple Databases," in *Heterogeneous Distributed Database Systems,* A. Elmagarmid, M. Rusinkiewicz, and A. Sheth (Eds.), Morgan Kaufmann, 1998, pp. 57–89.

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173. M. Ansari, L. Ness, M. Rusinkiewicz, and A. Sheth, "Executing Multidatabase Transactions," FUCSS-25, Kauai, HI, January 1992. (Best paper of the mini-track on Multi Data/Knowledge Bases).

174. A. Sheth and A. O'Hare, "The Architecture of BRAID: A System for Bridging Al/DB Systems," in Proceedings of the 7th IEEE, International Conference on Data Engineering, Kobe, Japan, April 1991, pp. 570–581.

175. D. Georgakopoulos, M. Rusinkiewicz, and A. P. Sheth, "On Serializability of Multidatabase Transactions through Forced Local Conflict," in Proceedings of the 7th IEEE International Conference on Data Engineering, Kobe, Japan, April 1991, pp. 314–323. (Outstanding Paper Award)

176. A. Sheth, "Fault Tolerance in a Very Large Database System: A Strawman Analysis," in Proceedings of the 9th IEEE, International Conference on Distributed Computing Systems, Newport Beach, CA, June 1989.

177. A. Sheth, J. Larson, E. Watkins, "Tailor, A Tool for Updating Views," in Proceedings of the Extending Data Base Technology Conference, Venice, Italy, March, 1988. Published in Lecture Notes in Computer Science, vol.303, Springer.

178. A. Sheth, J. Larson A. Comelio, and S. Navathe, "A Tool for Integrating Conceptual Schemas and User Views," in Proceedings of the 4th IEEE, International Conference on Data Engineering, Los Angeles, CA, February, 1988.

179. A. Sheth, A. Singhal, M. Liu, "Performance Analysis of Resilience Mechanisms in Distributed Database Systems," in Proceedings of the 3rd IEEE International Conference on Data Engineering, Los Angeles, CA, February 1987.

180. A. Sheth and M. Liu, "Integrating Locking and Optimistic Concurrency Control in Distributed Database Systems," in Proceedings of the 6th IEEE International Conference on Distributed Database Systems, Cambridge, MA, May 1986.

181. A. Elmagarmid, A. Sheth, and M. Liu, "Deadlock Detection Algorithms in Distributed Database Systems," in Proceedings of the 2nd International Conference on Data Engineering, Los Angeles, CA, February, 1986.

182. A. Singhal, A. Sheth, and M. Liu, "An Analysis of the Effect of Network Load and Topology on the Performance of Concurrency Control Algorithms in Distributed Database Systems," in Proceedings of Computer Networking Symposium, Gaithersburg, MD, December 1984. (Distinguished Paper Award)

183. A. Sheth, A. Singhal, and M. Liu, "An Adaptive Concurrency Control Strategy for Distributed Database Systems," in Proceedings of the 1st IEEE International Conference on Data Engineering, Los Angeles, CA, April 1984.

184. A. Sheth, "Memory Subsystems for Microcomputers," in Proceedings of the 5th All India Seminar on Microprocessors and Their Applications, Hyderabad, India, October 1980.

Invited Conference Publications

185. A. Sheth, "Realizing the Relationship Web: Morphing information access on the Web from today's document- and entity-centric paradigm to a relationship-centric paradigm," in Proceedings of the ACM Multimedia 2007 International Workshop: The Many Faces of Multimedia Semantics, Augsburg, Germany, September 28, 2007.

186. A. Sheth and K. Gomadam, "The 4 x 4 Semantic Model: Exploiting Data, Functional, Non-Functional and Execution Semantics across Business Process, Workflow, Partner Services and Middleware Services Tiers," in Proceedings of the 9th International Conference on Enterprise Information Systems (ICEIS 2007), Funchal, Portugal, June 12–16, 2007, pp. IS-5: IS-12.

187. K. Verma and A. Sheth. "Autonomic Web Processes," Invited vision paper, in Proceedings of the 3rd International Conference on Service-oriented Computing (ICSOC), Lecture Notes in Computer Science, B. Benatallah, F. Casati, P. Traverso (Eds.), Springer, 2005, pp. 1–11.

188. A. Sheth, "Enterprise Applications of Semantic Web: The Sweet Spot of Risk and Compliance," in Proceedings of the IFIP International Conference on Industrial Applications of Semantic Web (IASW2005), Jyväskylä, Finland, August 25–27, 2005.

189. J. Cardoso and A. Sheth, "Adaptation and Workflow Management Systems," International Conference WWW/Internet 2005, Lisbon, Portugal, pp. 356–364.

190. A. Sheth, "From Semantic Search & Integration to Analytics," in Semantic Interoperability and Integration, Dagstuhl Seminar Proceedings 04391, Internationales Begegnungs- und Forschungszentrum (IBFI), Schloss Dagstuhl, Germany, January 1, 2005.

191. A. Sheth, "From Semantic Search & Integration to Analytics," KM World, Santa Clara, CA, October 26, 2004.

192. D. Avant, M. Baum, C. Bertram, M. Fisher, A. Sheth, Y. Warke, "Semantic Technology Applications for Homeland Security," in Proceedings of the 11th International Conference on Information and Knowledge Management (CIKM 2002), McLean, VA, November 4–9, 2002, pp. 611–613.

193. M. H. Kang and Amit P. Sheth, "Survivability in a Cross-organizational Workflow," International Conference on Dependable Systems and Networks, Washington, DC, June 23–26, 2002, B64–B65.

194. A. Sheth, J. Cardoso, J. Miller, K. Kochut, and M. Kang, "QoS for Service-oriented Middleware," Invited session: Web Services & Grid Computing, in Proceedings of the 6th

World Multiconference on Systemics, Cybernetics and Informatics, Orlando, FL, July 14–18, vol. 8, pp. 528–534.

195. K. Shah and A. Sheth, "Logical Information Modeling of Web-accessible Heterogeneous Digital Assets," Invited paper, in Proceedings of the Forum on Research and Technology Advances in Digital Libraries (ADL'98), Santa Barbara, CA, May 28–30, 1998, pp. 266–275.

196. A. Sheth, "From Contemporary Workflow Process Automation to Adaptive and Dynamic Work Activity Coordination and Collaboration," Keynote talk paper, in Proceedings of the Workshop on Workflow Management in Scientific and Engineering Applications, Toulouse, France, September 1997.

197. M. Rusinkiewicz and A. Sheth, "Transactional Workflow Management in Distributed Systems," in Proceedings of the International Workshop on Advances in Databases and Information Systems (ADBIS'94), Moscow, May 1994.

198. A. Sheth and V. Kashyap, "So Far (Schematically) yet So Close (Semantically)," in Proceedings of the DS-5 Conference on Semantics of Interoperable Database Systems, Lorne, Australia, November 1992, Amsterdam: Elsevier North Holland, 1993, pp. 283–312..

199. A. Sheth and L. Kalinichenko, "Information Modeling in Multidatabase Systems: Beyond Data Modeling," in Proceedings of the 1st International Conference on Information and Knowledge Systems, Baltimore, MD, November 1992.

200. G. Karabatis and A. Sheth, "Specifying Interdependent Data: A Case Study at Bellcore," Annual Review of Communications, National Engineering Consortium, vol. 46, 1992–93. A version of this paper appeared in the Proceedings of the ACM SIGMOD Conference on Management of Data, May 1993.

Invited or Other Journal Publications (Partial List)

201. Amit P. Sheth, Karthik Gomadam, and Jon Lathem, "SA-REST: Semantically Interoperable and Easier-to-Use Services and Mashups," IEEE Internet Computing, November–December 2007, pp. 84–87.

202. A. Sheth, "Beyond SAWSDL—A Game Plan for Broader Adoption of Semantic Web Services," in "Semantic Web Services: Past, Present and Possible Futures," D. Martin and J. Dominique (Eds.), IEEE Intelligent Systems Trends & Controversies 22 (no.6), November–December 2007

203. A. Sheth and C. Ramakrishnan, "Semantic (Web) Technology in Action: Ontology Driven Information Systems for Search, Integration and Analysis," IEEE Data Engineering Bulletin, special issue: Making the Semantic Web Real, December 2003, pp. 40–48.

204. A. Sheth, Semantic Metadata for Next-Gen Enterprise Information Integration, DM Review, July 2003.

205. A. Sheth and J. A. Miller, "Web Services: Technical Evolution yet Practical Revolution?" in "Web Services: Been There, Done That?" S. Staab (Ed.), IEEE Intelligent Systems 18 (no. 1) January–February 2003, pp. 78–80.

206. A. Sheth and R. Meersman, "Amicalola Report: Database and Information Systems Research Challenges and Opportunities in Semantic Web and Enterprises," ACM SIGMOD Record 31 (no. 4), December 2002, pp. 98–106.

207. K. Anyanwu and A. Sheth, The r Operator: Discovering and Ranking Associations on the Semantic Web, ACM SIGMOD Record 31 (no. 4), December 2002, pp. 42–47.

208. J. Corley, W. Karp and A. Sheth, "IT at the heart of Healthcare," cover story for the special issue on Healthcare, Silicon India, October 1999.

209. K. Kochut, A. Sheth, J.A. Miller, "Optimizing Workflow," Component Strategies 1 (no. 9), March 1999, pp. 45–57.

210. Regular column on various issues on Workflow in ACM SIGGROUP bulletin, quarterly 1997–1998.

211. A. Sheth, D. Georgakopoulos, S. Joosten, M. Rusinkiewicz, W. Scacchi, J.C. Wileden, and A.L. Wolf. Report from the NSF workshop on workflow and process automation in information systems, ACM SIGMOD Record 25(no. 4), December 1996, pp. 55–67. Versions of the report also appeared in SIGGROUP and SIGACT bulletins.

212. Y. Breitbart, A. Deacon, H.-J. Schek, A. Sheth, and G. Weikum, "Merging Application-centric and Data-centric Approaches to Support Transaction-oriented Multi-system Workflows," ACM SIGMOD Record 22 (no. 3), September 1993.

213. A. Sheth and M. Rusinkiewicz, "On Transactional Workflows," Data Engineering 16 (no. 2), June 1993.

214. C. Tomlinson, P. Attie, P. Cannata, G. Meredith, A. Sheth, M. Singh, and D. Woelk, "Workflow Support in Carnot," Data Engineering 16 (no. 2), June 1993.

215. A. Sheth, "Building Federated Databases," invited paper, Quarterly Journal of IEEE TC on Distributed Processing, November 1988.

216. M. Rusinkiewicz and A. Sheth, "Polytransactions for Managing Interdependent Data," Data Engineering 14 (no. 1), March 1991.

217. B. Lee, W. Mansfield, and A. Sheth, "An Interactive Transaction Model for Distributed Cooperative Tasks," Data Engineering 14 (no.1), March 1991.

218. A. Sheth and A. O'Hare, "An Interpreted Compiled Range for Al/DBMS Integration," ACM SIGMOD Record 18 (no. 1), March 1989.

Workshop and Symposium Publications (Refereed)

219. S. Sahoo, O. Bodenrieder, K. Zeng, and A. Sheth, "An Experiment in Integrating Large Biomedical Knowledge Resources with RDF: Application to Associating Genotype and Phenotype Information," HCLS-DI2007, 16th International World Wide Web Conference (WWW2007), Banff, Canada, May 8–12, 2007.

220. F. Hakimpour, B. Aleman-Meza, M. Perry, and A. Sheth, "Data Processing in Space, Time and Semantics Dimensions," International Workshop Terra Cognita: Geospatial Semantic Web, Athens, GA, November 6, 2006.

221. V. Chandrasekaran, K. Gomadam, A. Sheth, and J. P. Bowen, "SemDrug: Application of semantic relationship discovery to expedite lead identification," 231st National Meeting of the American Chemical Society (ACS), Atlanta, GA, March 26–30, 2006.

222. S. Tartir, I.B. Arpinar, M. Moore, A. Sheth, and B. Aleman-Meza, "OntoQA: Metric-Based Ontology Quality Analysis," in Proceedings of IEEE ICDM 2005 Workshop on Knowledge Acquisition from Distributed, Autonomous, Semantically Heterogeneous Data and Knowledge Sources, Houston, TX, November 27, 2005.

223. M. Perry, M. Janik, C. Ramakrishnan, C. Ibanez, B. Arpinar, and A. Sheth, "Peer-to-Peer Discovery of Semantic Associations," in Proceedings of the 2nd International Workshop on Peer-to-Peer Knowledge Management P2PKM 2005, La Jolla, CA, July 17, 2005.

224. R. Akkiraju, J. Farrell, and J. Miller, M. Nagarajan, M. Schmidt, A. Sheth, K. Verma , "Web Service Semantics-WSDLS," in W3C Workshop on Frameworks for Semantics in Web Services, Innsbruck, Austria, June 9–10, 2005.

225. S.S. Sahoo, A. Sheth, W. York, and J. Miller, "Semantic Web Services for N-glycosylation Process," in International Symposium on Web Services, Blacksburg, VA, May 25–27, 2005.

226. A. Sheth, K. Verma, J. Miller, and P. Rajasekaran, "Enhancing Web Service Descriptions using WSDL–S, Research–Industry Technology Exchange" at EclipseCon 2005, Burlingame, CA, February 28–March 3, 2005.

227. A. Sheth, et. al. "Semantic Web Technology in Support of Bioinformatics for Glycan Expression," in W3C Workshop on Semantic Web for Life Sciences, October 28, 2004, Cambridge MA. Online publication.

228. N. Oldham, C. Thomas, A. Sheth, and K. Verma, "MWSAF with Machine Learning Classification," in 1st International Workshop on Semantic Web Services and Web Process Composition (SWSWPC 2004), San Diego, CA, July 6, 2004.

229. P. Rajasekaran, J. Miller, K. Verma, and A. Sheth, "Enhancing Web Services Description and Discovery to Facilitate Composition," in 1st International Workshop on Semantic Web Services and Web Process Composition (SWSWPC 2004), San Diego, CA, July 6, 2004.

230. B. Aleman-Meza, C. Halaschek, A. Sheth, I.B. Arpinar, and G. Sannapareddy, "SWETO: Large-Scale Semantic Web Test–bed," in Proceedings of the 16th International Conference on Software Engineering & Knowledge Engineering (SEKE2004): International Workshop on Ontology in Action, Banff, Canada, June 21–24, 2004, pp. 490–493.

231. A. Sheth and D. Avant, "Semantic Visualization: Interfaces for exploring and exploiting ontology, knowledgebase, heterogeneous content and complex relationships," in NASA Virtual Iron Bird Workshop, Monterey, CA, March 31 and April 2, 2004.

232. B. Aleman-Meza, C. Halaschek-Wiener, I.B. Arpinar, and A.P. Sheth, "Context-Aware Semantic Association Ranking," in Proceedings of SWDB'03, 1st Int'l Workshop on Semantic Web and Databases, co-located with VLDB 2003, Humboldt-Universitaet, Berlin, Germany, September 7-8, 2003, Isabel F. Cruz et al. (Eds.), 2003, pp. 33–50.

233. M. Arumugam, A. Sheth, and I. B. Arpinar, "Towards P2P Semantic Web: A Distributed Environment for Sharing Semantic Knowledge on the Web," in WWW2002 Workshop on Real World RDF and Semantic Web Applications, Honolulu, HI, May 7, 2002.

234. T. Lima, A. Sheth, N. Ashish, M. Guntamadugu, S. Laxminarayanan, N. Palsena, and D. Singh, "Digital Library Services Supporting Information Integration over the Web," in Proceedings of International Workshop on Information Integration on the Web Technologies and Applications, Rio de Janeiro, Brazil, 2001, pp.19–26.

235. Y. Han, A. Sheth, and K. Bussler, "A Taxonomy of Adaptive Workflow Management," in CSCW-98 Workshop Towards Adaptive Workflow Systems, November 14, 1998 (proceedings on the Web at http://ccs.mit.edu/klein/CSCW98/#anchor1609273).

236. Z. Luo, A. Sheth, J. Miller, and K. Kochut, "Defeasible Workflow, Its Computation and Exception Handling," in CSCW-98 Workshop Towards Adaptive Workflow Systems, November 14, 1998. (Proceedings on the Web at http://ccs.mit.edu/klein/CSCW98/#anchor1609273)

237. D. Worah and A. Sheth. "What Do Advanced Transaction Models Have to Offer for Workflows?" in Proceedings of the International Workshop on Advanced Transaction Models and Architectures (ATMA), Goa, India, August 1996, pp. 1–17.

238. A. Sheth and V. Kashyap, "Steps towards media–independent search of Web-accessible Heterogeneous Digital Data," in Proceedings of the 2nd International Workshop on Multimedia Information Systems, West Point, NY, Sept. 26–28, 1996, pp. 92–97.

239. E. Mena, V. Kashyap, A. Illarramendi, and A. Sheth, "Managing Multiple Information Sources through Ontologies: Relationship between Vocabulary Heterogeneity and Loss of Information," in Proceedings of the Workshop on Knowledge Representation meets Databases in conjunction with European Conference on Artificial Intelligence, Budapest, Hungary, August 1996, pp. 1–3.

240. A. Sheth, V. Kashap, and William LeBlanc, "Attribute-based Access of Heterogeneous Digital Data," in Proceedings of the Workshop on Providing Web Access to Legacy Data, 4th International World Wide Web Conference, December 1995.

241. A. Savasere, A. Sheth, S. Gala, S. Navathe, and H. Marcus, "On Applying Classification to Schema Integration," in Proceedings of the 1st International Workshop on Interoperability in Multidatabase Systems, Kyoto, Japan, 1991, pp. 258–261.

242. L. Ness, J. Cameron, and A. Sheth, "An Executor for Flexible Transactions which Achieves Maximal Parallelism," in Proceedings of the 1st International Workshop on Interoperability in Multidatabase Systems, Kyoto, Japan, 1991, pp. 288–291.

243. A. Sheth and M. Rusinkiewicz, "Management of Interdependent Data: Specifying Dependency and Consistency Requirements," in Proceedings of the Workshop on the Management of Replicated Data, Houston, TX, November 1990.

244. A. Sheth and S. Gala, "Attribute Relationships: An Impediment in Automating Schema Integration," in Proceedings of the Workshop on Heterogeneous Database System, December 1989.

245. A. Sheth, "Developing an Interface Unit for Expanding MCS 6800," in Proceedings of the 3rd Indian Congress of College Going Scientists, Kanpur, India, December 1979.

246. A. Sheth, "Solar Energy—Perspective and Applications," in Proceedings of the All India Symposium on Energy Management, Pilani, India, April 1979.

Other Publications: Conference Proceedings (Refereed or Invited Short Papers/Abstracts)

247. B. Aleman-Meza, C. Haschek-Wiener, S. S. Sahoo, A. Sheth, and I.B. Arpinar, "Template Based Semantic Similarity for Security Applications," Lecture Notes in Computer Science, vol.3495, Springer, April 2005, pp. 621–622. OpenURL

248. A. Sheth, K. Verma, J. Miller, and P. Rajasekaran, "Enhancing Web Service Descriptions using WSDL–S," A Research-Industry Technology Exchange at EclipseCon 2005, Burlingame, CA, February 28–March 3, 2005.

249. Y. Kalfoglou, M. Schorlemmer, M. Uschold, A. Sheth, and S. Staab, "Semantic Interoperability and Integration: Executive Summary," in Semantic Interoperability and Integration, Dagstuhl Seminar Proceedings 04391, Internationales Begegnungs– und Forschungszentrum (IBFI), Schloss Dagstuhl, Germany, March 2005.

250. C. Halaschek, B. Aleman-Meza, I.B. Arpinar, and A. Sheth: "Discovering and Ranking Semantic Associations over a Large RDF Metabase," in Proceedings of the 30th International Conference on Very Large Data Bases (VLDB 2004), Toronto, Canada, August 31–September 3, 2004, Morgan Kaufmann, 2004, pp. 1317–1320. ISBN 0-12-088469-0

251. W. York, A. Sheth, K. Kochut, J. Miller, C. Thomas, K. Gomadam, X. Yi, and M. Nagarajan, "Semantic Integration of Glycomics Data and Information," in Human Disease Glycomics/Proteome Initiative 1st Workshop: Functional Genomics in Disease, Osaka, Japan, August 23–24, 2004, pp. 38–39.

252. A. Sheth, "Semantic Content Annotation and Applications: Semantic web now and Challenges Ahead," in Proceedings of 2001 IRC International Conference on Internet Information Retrieval, Seoul, South Korea, October 29, 2001, pp. 99–102. (Vision paper)

253. K. Anyanwu and A. Sheth, "Supporting Knowledge Discovery on the Semantic Web by Exploiting the Semantics of Complex Relationships," in Proceedings of the International Semantic Web Working Symposium (SWWS), 2001. http://www.semanticweb.org/SWWS/program/position/

254. Z. Luo and A. Sheth, "Supporting Cross-Organizational Business Processes: Challenges and Solutions," Workshop, Beyond Workflow Management: Dynamic Organizational Process Workshop, CSCW 2000, Philadelphia, PA, December 2000. (Position/vision paper)

255. Z. Luo, A. Sheth, and K. Kochut, "Checkpointing for Workflow Recovery," ACM Southeast Conference 2000, Clemson, SC, April 2000, pp. 79–80. (Short paper)

256. A. Sheth, "The InfoQuilt System for Intelligent Analysis, Mining, Fusion, and Dissemination of Heterogeneous Media Data," Symposium on Advanced Information Processing and Analysis, Tysons Corner, VA, March 1997, p. 46. (Invited talk abstract)

257. S. Thatte, A. Sheth, and K. Shah, "Intelligence Information Management and the InfoHarness System," Symposium on Advanced Information Processing and Analysis, Tysons Corner, VA, March 1997, p.78. (Invited talk abstract)

258. A. Sheth, "Bellcore's ADAPT/X Harness System for Managing Information on Internet and Intranets," in Proceedings of the 22nd International Conference on Very Large Data Bases (VLDB 96), Mumbai (Bombay), India, September 3–6, 1996, Morgan Kaufmann, 1996, p. 585. (Invited talk abstract)

259. L. Shklar, A. Sheth, V. Kashyap, and S. Thatte, "InfoHarness: A System for Search and Retrieval of Heterogeneous Data," in Proceedings of the 1995 ACM SIGMOD International Conference on Management of Data, San Jose, CA, May 24, 1995, p. 478. (Demonstration abstract)

260. N. Krishnakumar and A. Sheth, "Specification of Workflows with Heterogeneous Tasks in METEOR," 20th International Conference on Very Large Databases (VLDB 94), Santiago, Chile, September 1994. (Refereed short paper)

261. W. Jin, L. Ness, M. Rusinkiewicz, and A. Sheth, "Concurrency Control and Recovery of Multidatabase Work Flows in Telecommunication Applications," in Proceedings of the ACM SIGMOD Conference on Management of Data, May 1993. (Refereed short paper)

262. D. Woelk, P. Attie, G. Meredith, A. Sheth, M. Singh, and C. Tomlinson, "Task Scheduling using Intertask Dependencies in Carnot," in Proceedings of the ACM SIGMOD Conference on Management of Data, May 1993. (Refereed short paper)

263. A. Sheth, "Does Loose AI-DBMS Coupling Stand a Chance?" in Proceedings of the 5th International Conference on Data Engineering, Los Angeles, CA, February 1988. (Position paper)

264. A. Sheth, "Managing and Integrating Unstructured and Unstructured Data: Problems of Representation, Features, and Abstraction," in Proceedings of the 4th International Conference on Data Engineering, Los Angeles, CA, February 1988. (Position paper)

265. A. Sheth, "When will we have true heterogeneous databases?" in Proceedings of the 3rd International Conference on Data Engineering, Los Angeles, CA, February 1987. (Position statement)

Other Publications: Articles in Informal Proceedings or Non-Refereed Papers

266. A. Sheth and C. Ramakrishnan, "Relationship Web: Blazing Semantic Trails between Web Resources," IEEE Internet Computing 11 (no. 4), July–August 2007, pp. 77–81

267. K. Verma and A Sheth, "Semantically Annotating a Web Service," IEEE Internet Computing 11 (no. 2), March–April 2007, pp. 83–85.

268. A. Abecker et al, AAAI Spring Symposium Reports, AI Magazine 27 (no. 3), Fall 2006, pp. 107–112.

269. R. Akkiraju, J. Farrell, J.Miller, M. Nagarajan, M. Schmidt, A. Sheth, and K. Verma,"Web Service Semantics –WSDL-S," joint UGA-IBM Technical Note, version 1.0, April 18, 2005. Also W3C acknowledged member submission, November 7, 2005.

270. A. Sheth et al., "Semantic Web Research Center Report: LSDIS Lab, Research in Semantic Bioinformatics, Semantic Analytics and Semantic Web Processes," SIGSEMIS Bulletin 1 (no. 3), November 2004.

271. A. Sheth, W. York, C. Thomas, M. Nagarajan, J.Miller, K. Kochut, S. Sahoo, and X. Yi, "Semantic Web technology in support of Bioinformatics for Glycan Expression," W3C Workshop on Semantic Web for Life Sciences, Cambridge, MA, October 27–28, 2004.

272. A. Sheth, "Early work in database research on schema mapping/merging/transformation, semantic heterogeneity, and use of ontology and description logics for schematic and semantic integration," Dagstuhl Seminar, Semantic Interoperability and Integration, Schloss Dagstuhl, Germany, September 19–24, 2004.

273. A. Sheth, "From Semantic Search & Integration to Analytics," presentations at KM World 2004, Santa Clara, CA, October 26–28, 2004; also in Dagstuhl Seminar Proceedings 04391.

274. F. Fonsenka and A. Sheth, "The Geospatial Semantic Web," UCGIS White Paper, 2002.

275. A. Sheth and SWIS Workgroup, "Semantic Web Information Systems: NSF IDM workgroup report on challenges and opportunities in Semantic Web," June 2002. Also published in ACM SIGMOD Record, December 2002.

276. A. Sheth, J. Miller, K. Kochut, and B. Arpinar, "Research in Multi-Organizational Processes and Semantic Information Brokering at the LSDIS Lab," ACM SIGMOD Record 30 (no. 4), December 2001, pp. 123–128.

277. V. Kashyap and A. Sheth, "Building Successful Human-Center Systems," Media/Book Review, IEEE Multimedia 8 (no. 2), 102–103, 2001.

278. A. Sheth, D. Worah, K. Kochut, J. Miller, K. Zheng, D. Palaniswami, and S. Das, "The METEOR Workflow Management System and its use in Prototyping Healthcare Applications," in proceedings of the conference Towards an Electronic Patient Record (TEPR'97), Nashville, TN, April 1997.

279. A. Sheth, "Eliminating Paper Work in the Healthcare System," SiliconIndia, August 15, 1997, pp. 2831.

280. A. Sheth, M. Ansari, L. Ness, and M. Rusinkiewicz, "Using Flexible Transactions to Support Multi-database Applications," US West-NSF-DARPA workshop, Heterogeneous Databases and Semantic Interoperability, Boulder, CO, February 1992.

281. A. Sheth, "Issues in Database Design and Integration: A Researchers in Search of Pragmatic Solutions," position statement distributed at 17th INTERNATIONAL CONFERENCE ON VERY LARGE DATA BASES, September 1991. A related position statement, "Issues in Schema Integration: Perspective of an Industrial Researchers," presented and distributed at the ARO Workshop on Semantics of Heterogeneous Databases, Philadelphia, PA, September 1991.

282. A. Sheth, "Fault Tolerances in Systems for Very Large Databases." Minnowbrook Workshop on Database Machines, July 1987.

283. R. Ramnarayan and A. Sheth, "A D/KBMS Architecture Evaluation Testbed," Minnowbrook Workshop on Database Machines, July 1987.

Bulletins or Reports: Over 50 written, some proprietary. Preface to most issues of IJSWIS.

Edited over 30 Database Research Center Reports for *ACM SIGMOD Record* as Associate Editor since 1988. Edited several reports on workflow and process management for *SIGGROUP Bulletin*.

Creative and Economic Contributions other than Formal Publications (since 1994)

Interviews and Profiles

- Interviews and biographical profiles
  - ➤ "WSU Developing New Web Technologies," interview in the *Dayton Daily News*, April 16, 2007.
  - ➤ Commercialization Profile for Semagix in "A Mission Possible: Transforming UGA Research Discoveries Into New Technology Companies," published by the University of Georgia, January 2006, p.7.
  - ➤ "An Interview with Amit Sheth: The Information Systems Perspective on Semantic Web Research," in the *Bulletin of AIS Special Interest Group on Semantic Web and Information Systems,* vol. 1 (no. 1), April 2004. (Copy)
  - ➤ "When Academicians Become Entrepreneurs," a profile of Dr. Amit Sheth in the Sandpaper, May 2003. (Copy)
  - ➤ Interview by John Townley: "The Streaming Search Engine That Reads Your Mind," in Streaming Media World**,** August 10, 2000.
  - ➤ "Interview: Amit Sheth on Workflow Technology," by Sushil Jajodia, *IEEE Concurrency*, April–June 1998, pp. 21–23. (Copy)
  - ➤ Technology Interviews: (a) discussing Semantic Web State of the Art in "Apps Make Semantic Web a Reality," *SD Times*, April 1, 2005, pp. 5, 17; (b) future in Internet related technologies and relevant research at UGA following broad-based talks, published in the *Economic Times*, January 1995 (several editions), and the *Times of India* (several editions), January 1996 (national newspapers in India with largest circulation in Business and General categories, respectively).
  - ➤ Interview discussing applications of the METEOR system in Healthcare in Research Reporter, UGA, Winter 1997, and in Healthcare Informatics (http://www.healthcare-informatics.com/issues/2001/02_01/cover.htm#workflow).
  - ➤ Biographical profiles published in a Gujarati book (1996) and an English (1997) book.

Technology Licensing, Commercialization, and Deployed Systems

- Recent software systems developed under supervision as PI of projects (with co-PIs where applicable) that are commercialized, used for R&D by other institutions or used for operational/regular work:

  ➢ **SCORE**, a technology for automatic metadata extraction and semantic applications, and for A/V search based on an Industry funded research project **VideoAnywhere** at the LSDIS lab. It has been licensed to Semagix, Inc. (formerly Taalee and Voquette, Inc.) by the University of Georgia research foundation to the first Venture Capital funded Internet–startup in the Athens, GA area. Commercial product from Semagix based on SCORE is named Freedom. **This resulted in over $6 million in payroll and other direct benefit to the economy of Athens, GA, before the company moved to Atlanta, GA.**

  ➢ **AdaptX Harness**, a commercial product from Bellcore (Telcordia Technologies) introduced in 1995 and supported through 2000 (lead project at Bellcore, subsequent technology transfer in joint project with UGA; see funded projects below).

  ➢ **METEOR** system (several components) was deployed at Boeing, Microelectronics and Computer Technology Corp., Connecticut Healthcare Research & Education Foundation and its Information Technology subsidiary CHIME, South Carolina Research Authority, National Institute of Standards and Technology's Manufacturing Program, etc. It has also been distributed to many higher education institutions for teaching and research and to industrial labs for non-commercial used. It was licensed to Infocosm, Inc., a startup company that has made METEOR available as a commercial product.

  ➢ **CAPA** system was completed and deployed for use throughout the UGA campus by any faculty and staff involved in proposing new courses or changes to the courses, and processing/approval of the proposals. In its first quarter of use, approx. 6000 courses were processed. LSDIS lab developed it and maintained the system for the first year, and is now transferred to the VPAA's office. CAPA system has been operational since 1997.

  ➢ **GradWeb** system overhauls the Graduate Schools information systems to provide a completely Web based environment for use by Staff and Administrators within the Graduate School and all interacting departments, as well as by graduate applicants and students. Application material is available electronically and applications be submitted electronically.

  ➢ **CareWeb,** a Web resource developed in collaboration with Medical College of Georgia under State of Georgia's Family and Children Services department to support health information and education needs of underserved populations.

Research Funding / Grants and Contracts Received as PI (since 1994[1])

Federal Funds (with additional matching funds in some cases)

- *Sensor Data Management,* Principal Investigator of subcontract (subcontract to daytaOhio in *Sensor-Aided Vigilance (SAVig),* funded by Air Force Research Laboratory), **$32,000**, April–August 2007.

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[1] PI of research grants/contracts of over four million dollars from DARPA and other sources before joining UGA. Also raised significant funds for commercial activities from Venture Capital and other sources for non-academic activities.

- *SemGrid: Semantic Discovery on Adaptive Services Grid,* Principal Investigator (UGA co-PIs: Arpinar, Kochut, Miller)*,* National Science Foundation (IIS 0545243), **$100,000**, October 15, 2005–December 31, 2007**.**
- *An Ontological Approach to Financial Analysis & Monitoring*, Principal Investigator, ARDA-funded project (subcontract to CTA, Inc.), $**325,000**, April 2005–September 2006.
- *Ontology, Metadata and Semantic Association Support for Semantic Agent Based Document Protection,* Principal Investigator, ARDA funded project (subcontract to CTA, Inc.), $**38,716**, November 2004–February 2005.
- *[SemDis: Discovering Complex Relationships in Semantic Web](#),* Principal Investigator (of joint UGA–UMBC project; UGA co-PIs: Arpinar, Kochut, Miller; UMBC co-PIs: Joshi, Finin, Yesha)*,* National Science Foundation (IIS-based 325464–ITR Medium Projects), **$800,000**–UGA component (Project Manager of $1,250,000 overall project with UMBC component), October 1, 2003–September 30, 2007.
- *[Bioinformatics of Glycan Expression](#)* (part of Integrated Technology Resource for Biomedical Glycomics, Grant No. P41 RR018502), Investigator (Computer Science Coordinator; other CS investigators: K. Kochut, J. Miller), National Institute of Health, **$709,401** (Computer Science Component), July 1, 2003–June 30, 2008. (Partial funds transferred to Wright State U. upon move).
- *System-Level Techniques for Energy Aware Computing* (focus area: Enabling Personal Networked and Home Computing Applications with Metadata, PI: D. Lowenthal, co-PIs: Bhandarkar, Sheth, Li, Waterson), $27,150, July 1, 2003–June 30, 2004.
- *Semantic Association Identification and Knowledge Discovery for National Security Applications*, Principal Investigator, National Science Foundation, CISE-ITR-0219649 (co-PIs: I.B. Arpinar, K. Kochut), **$200,000.** REU Supplement for 2004, $12,000, July 1, 2002–June 30, 2005.
- *Database and Information Systems Research for Semantic Web and Enterprises*, National Science Foundation (CISE-IIS-based 211606), $15,000. EU Thematic Network OntoWeb, $5,000. University of Georgia Foundation and CS Department, $6,250, April 1, 2002–March 31, 2003.
- *Extending METEOR with workflow reuse, adaptation, and collaboration*, Principal Investigator, awarded by Naval Research Laboratory and ITT, **$200,000**, January 1, 2000–September 30, 2000.
- *The Alexandria Digital Earth Modeling System* (Semantic Interoperability and Collaboration), Principal Investigator of the UGA subcontract to UCSB, National Science Foundation-IIS-9817432 (co-PI: K. Kochut), **$600,000** in federal funds, plus $25,000 in UGARF equipment matching, September 1999–August 2004.
- *Workflow Management for Advanced DoD Applications,* Principal Investigator, awarded by Naval Research Lab/Department of Navy-N00173-98-2-L005 (co-PIs:K. Kochut, J. Miller), **$315,542** in federal funds, plus **$15,000** in UGARF equipment matching funds, July 1, 1998–December 31, 1999.
- *METEOR: Healthcare Information Infrastructure Program—Enterprise Workflow Automation*, Principal Investigator for University of Georgia, awarded by National Institute of Standards and Technology (NIST)-ATP initiative on Information Infrastructure for Healthcare-70ANB5H1011 (co-PIs:K. Kochut, J. Miller), total project, **$1,674,729+:** $725,000 in federal funds over 4.5 years (3/95–2/96: $116,364; 3/96–2/97: $173,365; 3/97–2/98: $188,348; 3/98–3/99: $166,221; 3/99–8/99: $80,701); more than $949,727 in additional matching funds (from University of Georgia, University of Georgia Research Foundation, and industry donations; includes some of the funds listed under Industry Donations, below), March 1995–August 1999.

- *Collaborative Tele-Consulting for Healthcare (CaTCH)*, Principal investigator to South Carolina Research Authority awarded as a subcontract in HITECC funded by the NIST-ATP initiative (co-PIs for first year: K. Kochut, J. Miller, co-PIs for the second year: K. Kochut and K. Shah), total federal, **$166,129:** $112,480 for the first year, $47,149 for second year (partial) (additional second year and third year funds TBD, University of Georgia Research Foundation Matching in first year **$12,500**, June 1996–May 1999.
- *InfoHarness: A Scaleable System for Searching Heterogeneous Information*, Principal Investigator (of the overall project, joint project with Bellcore), awarded under the Massive Digital Data Systems initiative of the Community Management Staff, Contract no. 95-FI38400-000, over $600,000; University of Georgia component **$197,030** (year 1: $87,327; year 2: $109,703) plus University of Georgia Research Foundation equipment matching grant of **$14,500**, April 15, 1995–August 30, 1997.
- *NSF Workshop on Workflow and Process Automation*, Principal Investigator, awarded by the National Science Foundation (Award no. IRI-9528870, Division of Information, Robotics, and Intelligent Systems, and the Division of Computer and Computational Research), **$24,795**, plus **$6000** donation by the University of Georgia Research Foundation, September 1995–September 1996.
- *NATO Award for Advanced Study Institute on Workflow Systems and Interoperability*, Co-Director (jointly with A. Dogac, L. Kalinichenko, T. Ozsu), Istanbul, Turkey, 2,400,000 BFr (US**$76,000**), December 1996–August 1997.

Industry/Consortia Funds

- **Homeland Security Workshop**, Principle Investigator (with co-PIs E. Lynn Usery, I. Budak Arpinar, Xiaobai Yao), UCGIS, $15,000, August 2003–July 2004.
- **Video Data Management System**, Principal Investigator, awarded by L G Electronics Research Center of America, $50,004, 1998. University of Georgia Research Foundation Matching in first year $2,500, January 1, 1998–December 31.

State and University Funds

- *Major Collaboration/Infrastructure Grant,* "Advanced Data Management Resource for Biomedical Research,*"* Principal Investigator (WSU Co-PIs: M.L. Raymer, N.V. Reo), awarded through the Research Incentive Program of the Ohio Board of Regents by Wright State University, $30,000, May 1, 2007–June 30, 2008.

- *Faculty Research Commercialization Program,* Principal Investigator, awarded by the Advanced Technology Development Center in conjunction with Georgia Research Alliance, $50,000, July 1, 1998–June 30, 1998.

- *UGA Office of Instructional Development (OID),* A. Sheth, D. Everett, J. Miller, K. Kochut, J. Smith, R. Robinson, and H. Arabnia, "Mobile Multimedia Instruction Environment," $8,500, April 1, 1996–March 30, 1997.
- *Course Approval Process Automation (CAPA)*, Principal Investigator, funded by the Vice President for Academic Affairs, University of Georgia, $150,065 (budget) July 1, 1996–June 30, 1997.
- *CareWeb* for the Family Connection Program, Principal Investigator, cooperative agreement funded by Medical College of Georgia, $30,000, May 1997–April 1998.
- *GradWeb* for the reengineering of the entire information system of UGA's Graduate School with Web-based graduate applications and processing of graduate student related

information within the Grad School and with all departments, LSDIS lab award of approx. $32,430, July 1997–July 1998.

Competitive Awards and Industry Cash Gifts Received

- **Gift/donation,** Athens Heart Center, $32,000, May 2005.
- **Competitive Award, IBM Eclipse Innovation Grant 2005**, $27,000, January 2005.
- **Cash Gift/donation, 2004 IBM Faculty Award**, $30,000, 2004.
- **Competitive Award, IBM Eclipse Innovation Grant 2004**, $28,000, January 2004. (78/285)
- **Gift** from the Boeing Company as a LSDIS industry sponsor, $55,000 (annual gifts), December 1996, January 1998, January 2001.
- **Gift** from Microelectronic and Computer Technology Corporation (MCC) as a LSDIS industry sponsor, $20,000, June 1997.
- **Gift** from Hewlett-Packard Labs as a LSDIS industry affiliate, $12,500 (annual gifts for 1995,'96,'97, '98).
- **Gift** from L G Electronics Research Center of America as a LSDIS industry sponsor, $25,000, February 1998.

Industry Donations Received (total value over $650,000)

- Semagix Freedom, $255,000, 2005.
- Microsoft Research, donation of all requested software and training for Computer Science department (to support teaching) and LSDIS lab (for use in research), 1999.
- Informix Universal Server and other software (first receipt of grant program), Informix, $120,000, since April 1997. Renewed in 1998 and 1999 (value undetermined).
- Also from PictureTel live 200P and Developer's Tool kit, donated by PictureTel Corp., $6,775, June 1996, Virage's Visual Information Retrieval System (value not assigned) March 1997, MARGI's MPEG-to-GO (value not assigned) June 1997, POET (December 1998), Object Design Inc. (December 1998).
- I–Kinetics DataBroker and Open JDBC, $19,396, September 1997.
- Persistence, donated by Persistence Software Inc. $61,275, July 1995. Also, May 1997.
- ORBeline 2.0 and BlackWidow licenses (6), donated by PostModern Computing (first grant recipient of CORBA2.0 product), $83,700, March 1996.
- ORBIX and related products, donated by IONA Technologies, $45,295, October 1996. Again in 1998 (value undertermined).
- Illustra Server licenses (5) and several databases, awarded through a competitive grant program, Illustra Information Technology, Inc., $17,373.50, August 22, 1995.

Recognition, Outstanding Achievements and Honorary Appointments

- **IEEE Fellow** elected on November 13, 2005 by IEEE Board of Directors with citation "for contributions to information integration and workflow management," Class of 2006.
- Among the 50 or 60 most cited authors in computer science with h-index of 46 and over 9700 citations (as of May 2007). (A review of Sheth's publication citations record along with examples of Sheth's top-cited publications in several journals and conferences.) Highlights

include: Sheth-Larson 1990 (with over 1650 citations) is the **all-time most cited paper** in information integration, second most cited paper in distributed databases, and one of the top five cited papers in the entire field of databases. Georgakopoulos-Hornick-Sheth (with over 1000 citations) is the most cited paper in the area of workflow management. At least 20 papers have more than 100 citations; 40+ papers have more than 50 citations.

- International Scientific Advisory Committee, BISCSE 2005: Forging New Frontiers, 40th of Fuzzy Pioneers (1965–2005), Berkeley CA, November 2–6, 2005.
- 2004 IBM Faculty Award, March 2004.
- UGA Career Center Recognition/Award for "*greatly contributing to the career development of UGA students*" (based on post-graduation student surveys), September 2002.
- **Patent co-inventor** (Sheth, Avant, and Bertram), "System and Method for Creating Semantic Web and Its Applications in Browsing, Searching, Profiling, Personalization and Advertisement" (no**.** 6,311,194), October 30, 2001. **Patent co-inventor** (Georgakopoulos, Rusinkiewicz, Sheth) (no. 5,241,675), August 31, 1993.
- Advisory Board, Coca-Cola Center for Marketing Studies, Terry College of Business, 2002–2003.
- **International Advisory Board,** Internet Information Retrieval Research Center (IRC),Hankuk Aviation University, Korea, 2001–2002.
- **Board of Directors**, Healthcare Open Systems & Trials (HOST) consortium, 1995–1999.
- Member of the two-person International Advisory Board, TARA Project, University of Tsukuba, Japan. 1994–1996.
- Selected and served as an **ACM Lecturer**, 1991–1992. Again for 1992–1993.
- **Outstanding Paper Award** (co-author), 7th International Conference on Data Engineering, Kobe, Japan, April 1991.
- Six Recognition of Service Awards/Certificates of Appreciation from the IEEE TC on Data Engineering and the IEEE Computer Society– 1989, '90, '91, '92; from IEEE Technical Community on Services Computing– 2004; from the ACM– 1993.
- Citation for contributions to Bellcore for conceiving, developing, and prototyping the flexible transactional workflow technology, and business opportunity development, 1993. Also a recipient of Bellcore's Vice President team award for outstanding contribution, November 1993. Bellcore Achievement Award, 1989.
- Board of Advisors, Indiana Center for Database Systems, 1991–1993.
- Award from the Federal Computer Conference in recognition of contributions, April 1989.
- **Best Paper Award** (co-author) Computer Networking Symposium, 1984.
- National Merit Scholar, Government of India, 1975.

Professional or Scholarly Activities

Journal and Book Series Editorship

- **Series Editor** (with Ahmed Elmagarmid), Advances in Database Systems, Springer, July 2007– . ISSN: 1386-2944
- **Joint Editor-in-Chief** (with Ahmed Elmagarmid), Distributed and Parallel Databases: An International Journal, Springer, June 2007– . ISSN: 0926-8782

- **Editor-in-Chief**, International Journal on Semantic Web and Information Systems (IJSWIS), Idea Group Publishing, 2005–present.
- **Series Editor** (with Ramesh Jain), Book Series on Semantic Web and Beyond: Computing for Human Experience, Springer, 2004–present.
- Member, the Editorial Advisory Board, Advances in Web Services Research (AWSR) Book Series, IGI Global, 2007– .
- Member of the Editorial Board, **IEEE Internet Computing**, May 2006–present.
- Member of the Editorial Review Board, International Journal of Web Services Research, 2005–present.
- Member of the Editorial Board, Journal on Web Semantics: Science, Services and Agents on the World Wide Web, 2003–present.
- Member of the Editorial Board (acting Editor-in-Chief from 9/94 to 3/95), the Journal on Distributed and Parallel Databases, 1992–present.
- Member of the Editorial Board, the International Journal of Intelligent and Cooperative Information Systems, 1995–present.
- Member of the Editorial Board, Information Systems: an International Journal, 1993–present.
- Member of the Editor Board, IEEE Multimedia, 1998–2004. Also edited Media Reviews.
- Member of the Editorial Advisory Board, International Journal of Engineering Intelligent Systems, 1993–2000.
- Member of the Editorial Board, Distributed Systems Engineering Journal, 1993–1999.

Key Committee/Honorary Memberships

- World Wide Web Consortium (W3C) Advisory Committee Member, 2004–present.
- Advisory Board of Semantic Web Challenge 2005. Also in 2006.
- Member, Semantic Web Services Initiative Architecture Committee (SWSA), 2004–2005.
- Faculty, Institute of Bioinformatics, UGA, 2004– present.
- Faculty, Biomedical and Health Science Institute, UGA, 2004.
- Associate Editor for SIGMOD Record, 1988–present. Also edited research center reports.
- Advisor on Workflow for SIGGROUP (ACM's SIG for GroupWare and GroupWork), 1996–1999. Also edited a section of the Bulletin.

Tutorial Presentations at International Conferences

1. "Using SAWSDL for Semantic Service Interoperability" (with Kunal Verma), Semantic Technology Conference, San Jose, CA, May 20–24, 2007.
2. "Semantic Web: Technologies and Applications for the Real-World" (with Susie Stephens), 16th World Wide Web Conference (WWW2007), Banff, Canada, May 8–12, 2007.
3. "WSDL–S: Specification, Tools, Use Cases and Applications" (with Kunal Verma and Karthik Gomadam), Semantic Technology Conference, San Jose, CA, March 7, 2006.
4. "Lifecycle of Semantic Web Processes" (with Jorge Cardoso), 17th Conference on Advanced Information Systems Engineering (CAiSE'05), Porto, Portugal, June 13, 2005.

5. "Service Oriented Architectures and Semantic Web Processes" (with Jorge Cardoso, Franscisco Curbera), 13th International World Wide Conference, New York, NY, May 17, 2004.

6. "Service Oriented Architectures and Semantic Web Processes" (with Francisco Curbera and Kunal Verma), the 2004 IEEE International Conference on Web Services (ICWS 2004), San Diego, CA, July 7, 2004.

7. "Semantic Web Processes: Semantics Enabled Annotation, Discovery, Composition and Orchestration of Web Scale Processes" (with Jorge Cardoso), 4th International Conference on Web Information Systems Engineering (WISE 2003), Rome, Italy, December 10–12, 2003. Abstract

8. "Semantic Web Processes: Semantics Enabled Annotation, Discovery, Composition and Orchestration of Web Scale Processes" (with Jorge Cardoso), 4th International Conference on Web Information Systems Engineering (WISE 2003), Rome, Italy, December 10–12, 2003.

9. "Semantic Web Processes" (with Jorge Cardoso), 1st German Conference on Multiagent System Technologies and Net Object Days, Erfurt, Germany, September 22–25, 2003.

10. "Semantic Web Services and Processes: Semantic Composition and Quality of Service" (with Jorge Cardoso and Christoph Bussler), International Federated Conferences: DOA/ODBASE/CooPIS 2002, Irvine, CA, October 28–29, 2002.

11. "Workflow Management: Technology, Experiences and Research" (with J. Miller), 1998 IEEE International Conference on Data Engineering, Orlando, FL, February 1998.

12. "Workflow Automation: Applications, Technology, and Research," 1995 ACM SIGMOD International Conference on Management of Data, San Jose, CA, May 24, 1995, *and* the International Conference On Information Systems Engineering (CAiSE '95), Finland, June 14, 1995.

13. "Multidatabase Interoperation: Perspective of Researchers & Practitioners," 11th International Conference on Data Engineering, Taiwan, March 1995.

14. "Database and Application Interoperability in Industry: Requirements, Technology, Research Issues and Case Studies," 6th International Conference on Management of Data, Bangalore, India, December 1994.

15. "Interoperability in Multidatabase Systems" (with Dennis McLeod), 20th International Conference on Very Large Data Bases, Chile, September 1994.

16. "Interoperability in Multidatabase Systems," course offered by ETH (Swiss Federal Institute of Technology), Zurich, Switzerland, April 1993.

17. "Multidatabase Systems: Technology and Applications" (with M. Rusinkiewicz), 3rd International Conference on Data Engineering, Vienna, Austria, April 1993.

18. "Issues and Applications Support in Interoperable Database Systems," IFIP DS-5 Conference on Semantics of Interoperable Database Systems, Melbourne, Australia, November 1992.

19. "Multidatabase Applications: Semantics and Systems Issues" (with M. Rusinkiewicz), 18th International Conference on Very Large Data Bases (VLDB 92), Vancouver, Canada, 1992.

20. "Federated Databases for Managing Distributed, Heterogeneous, and Autonomous Databases," 17th VLDB, Barcelona, Spain, September 1991, *and* at the Workshop on Federated Databases, Rende, Italy, March 1992.

21. "Heterogeneous Distributed Databases: Issues in Integration," at the ACM SIGMOD Conference, 1989, *and* the 3rd International Conference on Data Engineering, 1987 and 1990.

22. "Integrating Heterogeneous Distributed Databases: Requirements, Concepts, and Solutions." at the Fall Joint Computer Conference, October 1987, Dallas, TX; also at the International

Conference on Databases in Parallel and Distributed System (with A. Elmagarmid), 1988, **and** at the 6th International Conference on Data Engineering, 1990.

23. "Issues in Managing Interdependent Data," at the Workshop on Management of Interdependent Data (with A. Elmagarmid and M. Rusinkiewicz), 1990.

Industry Courses and Workshops

24. "Semantic Web and Semantic Web Services," professional course, University of Madeira, Funchal, Portugal, June 16–18, 2005.
25. "Mysteries of Metadata," Content World 2001, Burlingame, CA, May 15, 2001. (3 hours)
26. "Workflow Management: Research, Technology, Products, Applications and Experiences," course leaders: A. Sheth and S. Joosten, offered by WARIA, Atlanta, GA, August 12–14, 1996. (3 days)

Panel Presentations at Conferences and Workshops

27. "Do the current Semantic Web standards and technologies benefit Heath Care and Life Science research today?" 1st International Workshop on Health Care and Life Sciences Data Integration for the Semantic Web (HCLS-DI2007), 16th International World Wide Web Conference (WWW2007), Banff, Canada, May 8, 2007. (Panelist)
28. "Semantic Web and Database Conferences," 3rd International Workshop on Semantic Web and Databases, Atlanta, GA, April 8, 2006.
29. "Strengths & Weaknesses of Semantic Technology Solutions: View from the Vendor and Research Community," Taxonomies and Semantic Technologies for S&T Analysis Conference, MITRE Corporation, March 17, 2006.
30. "Semantic Web Services: Past, Present, and Future," International Workshop in Dynamic Web Processes (DWP, 2005), Amsterdam, Netherlands, December 12, 2005.
31. "FLINT and Semantic Web," BISCSE 2005: Forging New Frontiers, Berkeley CA, November 2–6, 2005.
32. "Semantic Web Service Ontology Standard," Ontology Conference Call, October 20, 2005.
33. "Computing for Human Experience and Wellness," Views from the Labs panel at Emerging Ventures Conference, Boston, MA, October 11, 2005.
34. "Future of Semantics," Semantic Technology Conference 2005, San Francisco, CA, March 8, 2005.
35. "Get Ready for Semantic Web," KMWorld/Intranets 2004, Santa Clara, CA, October 26, 2004.
36. "The Role of Web Services in Semantic Interoperability and Integration," Dagstuhl Seminar on Semantic Interoperability and Integration, Dagstuhl, Germany, September 20, 2004. (Panel Chair)
37. "Web Service Choreography," panel at WWW2003, Budapest, Hungary, May 22, 2003. (Panel Chair)
38. "Semantic (Web) Technology in Action—today," panel: "The Semantic Web–Scientific American article considered harmful?" WWW2003, Budapest, May 21, 2003.
39. "'Semantics' in the Semantic Web: Is the Domain/Discipline Important?" ODBASE'02, Irvine, CA, October 29, 2002.
40. "Summary of NSF Databases and the Semantic Web Workshop," Science on the Semantic Web: Building a New Generation of Environmental Information Systems, Newark, NJ, October 24, 2002.

41. "Research Directions for the Semantic Web," 3rd OntoWeb Meeting, Sardinia, Italy, June 13, 2002.

42. "User Experience of Enterprise Semantic Content Management," Symposium on the User Experience of Business Intelligence & Knowledge Management, IBM Almaden Research Center, San Jose, CA, March 18, 2002.

43. "Semantic Web—Rehash or Research Goldmine," 6th International Conference on Cooperative Information Systems (CoopIS 2001), Trento, Italy, September 6, 2001. (Panel Chair)

44. "Semantic Web—The Road Ahead," 2nd International Workshop on the Semantic Web (SemWeb'2001) at WWW10, Hong Kong, May 1, 2001.

45. "Creating Searchable Audio Video Web Sites," Streaming Media West 2000, San Jose, CA, December 14, 2000.

46. "Impact of Broadband," Internet Entrepreneur Conference, sponsored by *SiliconIndia*, Atlanta, GA, May 8, 2000. (Panel Chair)

47. "Future Research in Semantics of Multimedia Systems," 8th IFIP 2.6 Working Conference on Database Semantics (DS-8), Rotorua, New Zealand, January 4–8, 1999.

48. "Virtual Teams and Infocosm: Challenges for research in cooperative information systems," 3rd Conference on Cooperative Information Systems, New York, NY, August 1998. (Panelist and Co-Chair)

49. "Is Healthcare Ready for Internet? Technology Is!" Annual Meeting of the Healthcare Open Systems and Trials Consortium, Washington, DC, November 1997.

50. "Cooperative Multiagent Systems for the Web," 2nd IFCIS International Conference on Cooperative Information Systems, Kiawah Island, SC, June 1997. (Panel Chair)

51. "Active Databases and Agents in Cooperative Information Systems," 2nd IFCIS International Conference on Cooperative Information Systems, Kiawah Island, SC, June 1997. (Panelist)

52. "World Wide What?" 4th International Conference on Parallel and Distributed Information Systems, Miami, FL, December 20, 1996. (Panelist)

53. "What Can Database Contribute to Multidisciplinary Research in Work Activities Coordination," International Workshop on Advanced Models and Architectures, Goa, India, September 1, 1996. (Panel Chair)

54. "Database Research in Workflow Management Systems, Do We Have Anything to Contribute?" International Conference on Cooperative Information Systems (CoopIS'96), June 20, 1996. (Panelist)

55. "How Do We Meet the Challenges of the Global Computing Revolution," International Conference on Cooperative Information Systems (CoopIS'96), June 21, 1996. (Panelist, Plenary session panel)

56. "Data Semantics: What, Where and How," 6th IFIP TC-2 Working Conference on Data Semantics (DS-6), Stone Mountain, Georgia, June 1995. (Panel Chair) (see Section 3a, no. 7)

57. "Information Resource Discovery: A Torch in the Deep Darkness of the Information Superhighway?" 11th International Conference on Data Engineering, Taiwan, March 1995. (Panel Chair)

58. "Where are Distributed Databases headed," 6th International Conference on Management of Data, Bangalore, India, December 1994. (Panelist)

59. "Challenges in Global Information Systems," 20th International Conference on Very Large Data Bases, Chile, September 1994. (Panelist)

60. "Why do we need Extended Transaction Models?" 16th IEEE-CS Computer Software & Applications Conference (COMPSAC92), September 1992. (Panelist)

61. "Dealing with Heterogeneous Databases: Is the Research on Right Track?" 2nd International Conference on Systems Integration, Morristown, PA, June 1992. (Panel Chair)

62. "Key Information Management Issues in the Real World," US West-NSF-DARPA Workshop on Heterogeneous Databases and Semantic Interoperability, Boulder, CO, February 1992. (Panelist, Final plenary session panel)

63. "Cooperative Database Design," 17th International Conference on Very Large Data Bases, Barcelona, Spain, September 1991. (Panelist)

64. "Resolving Semantic Heterogeneity," 6th International Conference on Data Engineering, Los Angeles, CA, February 1990. (Panelist)

65. "Does loose AI-DBMS coupling stand a chance?" 5th International Conference on Data Engineering, Los Angeles, CA, February 1989. (Panel Chair)

66. "Can we meaningfully integrate drawing, text, image, and voice with structured data?" 4th International Conference on Data Engineering, Los Angeles, CA, February 1988. (Panel Chair)

67. "When will we have true Heterogeneous Databases," Fall Joint Computer Conference, October 1987. (Panelist)

68. "Improving Concurrency in Distributed Systems," 3rd International Conference on Data Engineering, February 1987. (Session discussant)

Invited and Colloquia Talks (Partial List, Not Including Conference and Workshop Paper Presentations/Talks)

69. "Relationship Web: Spinning the Semantic Web from Trailblazing to Complex Hypothesis Evaluation," Cyber Center Lecture Series, Discovery Park, Purdue University, Lafayette, IN, August 16, 2007.

70. "Semantic empowerment of Life Science Applications," Cincinnati Children Hospital and Medical Center, Cincinnati, OH, October 14, 2006.

71. "Career Options, Changing Trends and Emerging Areas in Computer Science and related fields," Birla Institute of Technology & Science, Pilani, India, September 30, 2006.

72. "Semantics to energize the full Services Spectrum," IBM Indian Research Lab, New Delhi, India, July 27, 2006.

73. "Semantics to energize the full Services Spectrum," DA–IICT, Ahmedabad, India, July 25, 2006.

74. "METEOR-S: Using Semantics to energize Services & Processes," DERI, Galway, Ireland, June 19, 2006.

75. "Semantic Web applications in Financial Industry, Government, Health care and Life Sciences, " Accenture Technology Labs, Palo Alto, CA, March 29, 2006.

76. "Semantic Web applications in Financial Industry, Government, Health care and Life Sciences," and "METEOR-S: Investigations on semantics empowerment of processes," Hewlett–Packard Labs, Palo Alto, CA, March 6, 2006.

77. "Web Service Semantics-WSDL-S," W3C Advisory Committee Meeting, Montreal, Canada, November 30, 2005.

78. "What can Semantics do for Bioinformatics," Special Seminar, Institute of Bioinformatics, University of Georgia, September 22, 2005.

79. "Semantic Web Applications in Enterprises and Scientific Research," W3C Advisory Committee Meeting, Cannes-Mandelieu, France, June 7, 2005.
80. "Semantic Web: Technology & Applications in Search, Digital Media/Content Management, Science and National/Homeland Security," Digimarc Corp., Portland, OR, May 3, 2005.
81. "Semantics in the Semantic Web–The implicit, the formal and the powerful (with a few examples from Glycomics)," Berkeley Initiative in Soft Computing (BISC) Seminar, University of California, Berkeley, October 26, 2004.
82. "Web Services to Semantic Web Process," Tsinghua University, Beijing, China, September 16, 2004.
83. "Semantic Web Technology in Action: From Search and Integration to Analytics," Shanghai Jiao Tong University, Shanghai, China, September 15, 2004.
84. "Semantic Web Technology Evaluation Ontology (SWETO): A test bed for evaluating tools and benchmarking semantic applications," WWW2004 Developers' Day, New York, NY, May 22, 2004.
85. "Semantic Web in Action," NASA Ames Research Center, Menlo Park, CA, April 1, 2004.
86. "Semantic Web in Action," IBM Almaden Research Center, January 13, 2004.
87. "Semantic Discovery and its applications to Homeland Defense and Bioinformatics," Georgia Technology Institute, Atlanta, GA, November 24, 2003.
88. "Ontology-based Information Systems: From Research to Reality," Boeing PhantomWorks, Seattle, WA, September 17, 2003.
89. "Semantic Web Process Lifecycle: Role of Semantics in Annotation, Discovery, Composition and Orchestration," IBM T.J. Watson Research Center, Hawthorne, NY, July 10, 2003.
90. "Ontology Driven Information Systems in Action: Capturing and Applying Existing Knowledge to Semantic Applications," University of Namur, Belgium, June 24, 2003.
91. "Semantic Web Applications and Next Generation Content Management," Hongik University, Seoul, Korea, October 30, 2001.
92. "Web, Semantics, OIL and FUEL: Semantic Interoperability and learning on the Web," Stanford University Database Seminar, October 20, 2000.
93. "Mapping your job search process while balancing Career Growth, Pay and Security," ACM Student Chapter 1st Annual ACM Dinner, Athens, GA, April 5, 2001.
94. "Changing Focus on Interoperability in Global Information Systems," Technical Speaker Series, MITRE, December 3, 1998.
95. "Enabling Virtual Teams and Infocosm," Bell Communications Research, December 2, 1998.
96. "METEOR System for Distributed, Multi-paradigm Workflow Management," invited technical presentation, CERN, Geneva, Switzerland, March 31, 1998.
97. InfoHarness and InfoQuilt: Steps towards enabling Infocosm through Semantic Interoperability," colloquium talk, University of California, Santa Barbara, March 5, 1998.
98. "InfoHarness and InfoQuilt Projects," CNN Interactive, Atlanta, GA, April 21, 1997.
99. "Information (Super) Highway: New Opportunities for Global Competitive Advantage for Developing Countries," H. M. College, Ahmedabad, India, September 12, 1996.
100. "Information (Super) Highway: New Opportunities for Global Competitive Advantage for Developing Countries," IEEE Computer Society, Gujarat, India, September 11, 1996.
101. "Media–independent Correlation and Access of Heterogeneous Digital Information," Indian Space Research Organization, Ahmedabad, India, September 9, 1996.
102. "Adapt/X Harness System for Managing Heterogeneous Information in Internet and Intranets," Conference on Very Large Databases, Bombay, India, September 4, 1996.
103. "Transactional Workflow Management: Research, Technology and Applications," Indian Institute of Management, Ahmedabad, India, December 1994.

104. "Issues in Interoperable Information Systems," Indian Institute of Technology, Bombay, India, December 29, 1994.
105. "Multi-Database Systems: Research and Reality," ACM Lecture Series Talk, Univ. of Michigan, November 1994.
106. "Transactional Workflow Systems," ACM Lecture Series Talk, Wayne State University, Detroit, MI, November 17, 1994.
107. "Multi-Database Systems: Research and Reality," ACM Lecture Series Talk, ACM Professional Chapter, Ann Arbor, MI, November 17, 1994.
108. "Multi-system Applications and Transactional Workflows," George Mason University, Fairfax, VA, May 1994.
109. "Multisystem Applications and Transactional Workflows," University of California, Riverside, April 1994.
110. "Transactional Workflow Management: Research, Technology and Applications," State University of New York, Albany, NY, March 1994.
111. "Transactional Workflow Management: Research and Applications," Bell Labs, Murray Hill, NJ, July 1993.
112. "Transactional Workflow Management: Research and Applications," Matsushita Information Technology Laboratory, Princeton, NJ, June 1993.
113. "Management of Interdependent Data: Specification, Enforcement and Applications," University of Zurich, Zurich, Switzerland, May 1993.
114. "Schematic and Semantic Heterogeneity," ETH (Swiss Federal Institute of Technology), Zurich, Switzerland, May 1993.
115. "Multisystem Workflow Applications," University of Munich, April 1993.
116. "Management of Interdependent Data: Specification, Enforcement and Applications," George Mason University, Fairfax, VA, March 1993.
117. "BERDI: A Schema Design, Analysis and Integration Toolkit," Hewlett Packard Labs, February 1993.
118. "The CHIME Project," Microelectronics and Computer Corporation, Austin, TX, January 1993.
119. "Multidatabase Systems: Research and Reality," Queensland University of Technology, Brisbane, Australia, November 1992.
120. "Federated Databases for Managing Distributed, Heterogeneous, and Autonomous Databases," La Trobe University, Bandoora, Australia, November 1992.
121. "Management of Interdependent Data: Specification, Enforcement and Applications," ETH (Swiss Federal Institute of Technology), Zurich, Switzerland, October 1992.
122. "Management of Interdependent Data," IBM-European Networking Center and Scientific Research Heidelberg, Heidelberg, Germany, October 1992.
123. "Transactional Workflow Management: Specification and Enforcement," IPSI–GMD, Darmstadt, Germany, October 1992.
124. "Federated Databases for Managing Distributed, Heterogeneous, and Autonomous Databases," Univsity of Ulm, October 1992.
125. "The BrAID System for Integrating AI and DBMS Systems," Fern Universitat, Hagen, Germany, October 1992.
126. "Multidatabase Systems: Research and Reality," Simon Fraser University, Vancouver, Canada, August 1992.
127. "Management of Interdependent Data in Multidatabase Systems," U of Maryland–BC, May 1992.
128. "Management of Interdependent Data," IPSI–GMD, Darmstadt, Germany, March 1992.
129. "Semantics Issues in Schema Integration," IPSI–GMD, Darmstadt, Germany, March 1992.
130. "Federated Databases for Managing Distributed, Heterogeneous, and Autonomous Databases," CRAI, Italy, March 1992.

131. "Data Consistency and Work Flow Management in Multidatabase Systems," VTT (National Research Center of Finland), Helsinki, Finland, March 1992.
132. "Management of Interdependent Data in Multidatabase Systems," Matsushita Information Technology Laboratory, Princeton, NJ, February 1992.
133. "Management of Interdependent Data: A Case Study at Bellcore," Microelectronics and Computer Corporation, Austin, TX, January 1992.
134. "Research Issues in Schema Integration and View Update," University of Houston, TX, October 1991.
135. "Federated Database Systems," Boeing, Seattle, WA, October 1991.
136. "Federated Database Systems," ACM professional chapters at Piscataway, NJ, April 1991.
137. "Schematic and Semantic Issues in Schema Integration," New Jersey Institute of Technology, Newark, March 1991.
138. "Federated Database Systems: Architecture and Alternatives," New Jersey Institute of Technology, Newark, January 1991.
139. "Integrating Heterogeneous Distributed Databases: Requirements, Concepts and Solutions," New Jersey Institute of Technology, Newark, October 1990.
140. "Research Issues in Schema Integration and View Update," Purdue University, West Lafayette, IN, October 1990.
141. "Federated Databases for Managing Distributed, Heterogeneous, and Autonomous Databases," IBM-European Networking Center and Scientific Research Heidelberg, Germany, August 1990.
142. "View Update Using Knowledge at View Definition and View Update Time," IPSI-GMD, Darmstadt, Germany, August 1990.
143. "Federated Databases for Managing Distributed, Heterogeneous, and Autonomous Databases," Fern Universitat, Hagen, Germany, August 1990.
144. "Federated Database Systems," Bell Communications Research, Red Bank, NJ, February 1990.
145. "Integrating Heterogeneous Distributed Databases: Requirements, Concepts and Solutions," University of California, Los Angeles, October 1988.
146. "View Update Using Knowledge at View Definition and View Update Time," Fern Universitat, Hagen, Germany, March 1988.
147. "View Update Using Knowledge at View Definition and View Update Time," INRIA, France, March 1988.
148. "View Update Using Knowledge at View Definition and View Update Time," Unisys West Coast Research Center, April 1987.
149. "Integrating Heterogeneous Distributed Databases," University of Minnesota, September 1986.

Technical Meetings (Conferences, Workshop) Organization

1. **Co-organizer,** Association for the Advancement of Artificial Intelligence (AAAI) 2008 Spring Symposium, "AI Meets Business Rules and Process Management," Stanford University, Palo Alto, CA, March 26–28, 2008.
2. **Co-organizer,** 2d Workshop on Advances in Semantics for Web Services (semantics4ws'07) at BPM 2007, Brisbane, Australia, September 24, 2007**.**
3. **General Chair**, 4th International Workshop on Semantic Web for Services and Processes (SWSP 07), in conjunction with 2007 IEEE International Conference on Web Services, Salt Lake City, UT, July 9, 2007.

4. **Co-organizer**, 1st International Workshop on Web Service Composition and Adaptation (WSCA-2007), in conjunction with 2007 IEEE International Conference on Web Services Salt Lake City, UT, July 9–13, 2007.

5. **Co-organizer**, Autonomic Web Services, Dagstuhl Seminar 07061, February 4–9, 2007

6. **Industry Track Chair,** 5th International Semantic Web Conference, Athens, GA, November 6–9, 2006.

7. **General Chair,** 3rd International Workshop on Semantic and Dynamic Web Processes (SWDP2006), Chicago, September 18, 2006.

8. **Program Co-chair**, 4th International Conference on Business Process Management (BPM 2006), Vienna, Austria, September 5–7, 2006.

9. **Organization Committee Co-chair**, Advances in Semantics for Web services Workshop, (semantics4ws'06), at BPM 2006, Vienna, Austria, September 4, 2006.

10. **Co-organizer**, SIG on Semantic Web and Information Systems (mini-track) at the 12th Americas Conference on Information Systems, Acapulco, México August 4–6, 2006.

11. **Program Co-chair,** AI-Driven Technologies for Services-Oriented Computing (AAAI-06 Workshop), Boston, MA, July 16–17, 2006.

12. **Organization Committee**, the International Workshop on Distributed Applications for B2B Integration (DABI 2006), to be held in conjunction with 26th ICDCS, Lisbon, Portugal, July 4–7, 2006.

13. **Organizing Committee**, ESWC'06 Industry Forum Day Business Applications of Semantic Web technology, Budva, Montenegro, June 11–14, 2006.

14. **Steering Committee,** Semantic Web Services Challenge 2006: Challenge on Automating Web Services Mediation, Choreography and Discovery, Stanford University & ESWC, 2006.

15. **PC Co-chair**, International Workshop on Semantics enabled Networks and Services (ICDE SeNS 2006) at ICDE2006, Atlanta, GA, April 7, 2006.

16. **General Chair**, 3rd International Workshop on Semantic Web and Databases (ICDE SWDB'06) at ICDE2006, Atlanta, GA, April 3, 2006,

17. **Co-organizer,** "Semantic Web meets eGovernment," AAAI Spring Symposium Series (SSS-based6), Stanford University, Palo Alto, CA, March 27–29, 2006.

18. **Co-chair**, Organization Committee, International Workshop in Dynamic Web Processes (DWP 2005) at ICSOC 2005, Amsterdam, Netherlands, December 12, 2005.

19. **Co-chair,** 2nd International Workshop on Semantic and Dynamic Web Processes (SDWP2005) Orlando, FL, July, 2005.

20. **Co-organizer,** Semantic Interoperability and Integration, Dagstuhl Seminar 04391, Dagstuhl, Germany, September 19–24, 2004.

21. **Program Co-chair**, 2004 IEEE International Conference on Services Computing (SCC 2004), Shanghai, China, September 15–18, 2004.

22. **Co-organizer,** 1st International Workshop on Semantic Web Services and Web Process Composition (SWSWPC 2004), San Diego, CA, July 6–9, 2004.

23. **Co-organizer,** NASA Workshop on the Knowledge Integrating Virtual Iron Bird, March 31–April 2, 2004.

24. **Co-chair**, UCGIS Homeland Security Workshop, Amicalola Falls and State Park, GA, November 5–7, 2003.

25. **Co-chair**, Workgroup on Semantic Web, NSF 2002 Workshop on Information and Data Management**,** Arlington, VA, May 5–7, 2002.

26. **Organizer/Chair**, NSF-EU Invitational Workshop on Database and Information Systems Research for Semantic Web and Enterprises, (Robert Meersman, Co-organizer), Amicalola State Park, GA, April 3–5, 2002.
27. **Co-organizer**, 2nd International Workshop on the Semantic Web (SemWeb'2001) at WWW10, Hong Kong, May 1, 2001.
28. **Program Co-chair,** IEEE conference on Advances in Digital Library, Washington DC, May 2000.
29. **Co-director**, NATO Advanced Study Institute on Workflow Systems and Interoperability, Istanbul, Turkey, August 12–22, 1997.
30. **General Co-chair**, 1st International Conference on Interoperable and Cooperative Information Systems (CoopIS '96), June 1996.
31. **Program Chair** and Organizing Committee Chair, NSF workshop on Workflow and Process Automation: State-of-the-art and Future Directions, May 1996.
32. **Program Co-chair**, 3rd International Conference on Parallel and Distributed Information Systems, 1994.
33. **Program Vice-chair**, Technology and Applications Track, the 10th International Conference on Data Engineering, 1994.
34. **Program Co-chair,** 3rd RIDE-International Workshop on Interoperability in Multidatabase Systems, April 1993.
35. **General Chair**, 1st International Conference on Parallel and Distributed Information Systems, 1991.
36. **Program Vice-chair,** 6th IEEE International Conference on Data Engineering, 1990.
37. **Chair** for the Workshop on Management of Interdependent Data in Bellcore and BCCS, 1990.
38. **Program Vice-chair** for the 5th IEEE International Conference on Data Engineering, 1989.

Other Organization Committee Roles

39. **Sponsorship Chair**, International Semantic Web Conference, Athens, GA, November 2006.
40. **Panel Chair**, Federated Conferences ODBASE/CooPIS 2002, Irvine CA, October 2002.
41. **Steering Committee,** Science on the Semantic Web: Building the Next Generation of Environmental Information Systems, Rutgers University, NJ, October 24, 25, 2002.
42. **Steering Committee Chair and founder**, 1st ACM International Conference on Work Activity Coordination and Collaboration, February 1999, San Francisco, CA.
43. **Panel Chair**, 5th International Conference on Information and Knowledge Management (CIKM'96), Rockville, MD, November 12–16, 1996.
44. **Panel Co–Chair**, 22nd International Conference on Very Large Data Bases, Bombay, India, September 1996.
45. Founding Member and **Executive Committee Member/**Treasurer, International Foundation on Cooperative Information Systems, 1995–present.
46. **Steering Committee Member**, International Conference on Parallel and Distributed Information Systems, 1995–present.
47. Panel Chair and Member of Organization Committee, 6th IFIP TC-2 Working Conference on Data Semantics (DS-6), Stone Mountain, GA, June 1995.
48. **Tutorial Chair** for the ACM SIGMOD Conference, 1993.
49. **Tutorial Chair,** 7th IEEE International Conference on Data Engineering, 1988 and 1991.

50. **Secretary and Treasurer** of the executive committee of the IEEE CS TC on Data Engineering, 1992–present.
51. **Publication Chair,** 1st International Workshop on Interoperability in Multidatabase Systems (IMS '91), April 1991**.**
52. **Associate Editor** for SIGMOD Record, 1988–2005.
53. **Tutorial Chair,** 4th IEEE International Conference on Data Engineering, 1988.

Program Committee Member for International Conferences and Workshops

1. 1st International Workshop on Networking for Distributed Knowledge Management (NDKM'07), Albufeira, Portugal, November 25–30, 2007.
2. 3rd International IFIP Workshop on Semantic Web & Web Semantics (IFIP SWWS 2007), Albufeira, Portugal, November 25–30, 2007.
3. 6th International Semantic Web Conference and 2nd Asian Semantic Web Conference, Busan, Korea, November 11–15, 2007
4. 1st Workshop CyberInfrastructure: Information Management in eScience (CIMS), Collocated with ACM CIKM 2007, Lisbon, Portugal, November 9, 2007.
5. International Conference on Advances in Semantic Processing (SEMAPRO 2007), Papeete, French Polynesia, November 4–9, 2007.
6. Workshop on Cyberinfrastucture for e-Science (CyIneS 2007), IEEE/WIC/ACM Joint Conference on Web Intelligence and Intelligent Agent Technology, Silicon Valley, CA, November 2–5, 2007
7. Usage of Service Level Agreements in Grids Workshop, in conjunction with the 8th IEEE International Conference on Grid Computing (Grid 2007), Austin, TX, September 19, 2007.
8. 11th International Workshop on Cooperative Information Agents (CIA 2007), Delft, Netherlands, September 19–21, 2007.
9. 22nd National Conference on Artificial Intelligence: AAAI-based7 (Special track on Artificial Intelligence and the Web), Vancouver, British Columbia, Canada, July 22–26, 2007.
10. 9th International Conference on e-Health Networking, Applications and Services (http://www.healthcom2007.org/), Taipei, Taiwan, June 19-22, 2007.
11. 1st International Conference on Web Reasoning and Rule Systems, Innsbruck, Austria, June 7–8, 2007.
12. From Concepts & Prototypes to Practical Solutions, 1st International Workshop on Semantic Technology Adoption in Business (STAB'07), in conjunction with ESTC 2007, Vienna, Austria, May 31–June 1, 2007.
13. 16th International World Wide Web Conference (WWW2007), Semantic Web track, Banff, Canada, May 10–12, 2007.
14. 16th International World Wide Web Conference (WWW2007), E-Applications track, Banff, Canada, May 10–12, 2007.
15. 5th International Semantic Web Conference (ISWC 2006), Senior PC member/meta-reviewer, Research/Academic track, Athens, GA, November 5–9, 2006.
16. 4th IEEE International Conference on Web Services, Chicago, IL, September, 2006.
17. 1st Asian Semantic Web Conference, Beijing, China, September 5–7, 2006.
18. 21st National Conference on Artificial Intelligence (AAAI-06), Boston, MA, July 16–20, 2006.
19. 3rd Annual European Semantic Web Conference (ESWC2006), Budva, Montenegro, June 2006. (Senior PC Member)

20. 15th International World Wide Web Conference (WWW2006), XML and Web Services track, Edinburgh, Scotland, May 22–26, 2006.
21. 15th International World Wide Web Conference (WWW2006), E-Applications track, Edinburgh, Scotland, May 22–26, 2006.
22. 15th International World Wide Web Conference (WWW2006), E* track, Edinburgh, Scotland, May 22–26, 2006.
23. IEEE Intelligence and Security Informatics (ISI) Conference, San Diego, CA, May 22–24, 2006.
24. IEEE International Conference on Granular Computing, Atlanta, GA, May 10–12, 2006.
25. 22nd International Conference on Data Engineering, Atlanta, GA, April 3–7, 2006.
26. 2nd International Workshop on Database Interoperability (InterDB2006), April 2006.
27. 6th International Conference on Web Information Systems (WISE 2005), New York, NY, December 2005.
28. 1st International Conference on Geospatial Semantics (GeoS 2005), Mexico City, Nov 29–30, 2005.
29. 4th International Semantic Web Conference (ISWC 2005), Senior PC member, Research/Academic track, Galway, Ireland, November 6–10, 2005.
30. 4th International Semantic Web Conference (ISWC 2005), Industrial track, Galway, Ireland, November 6–10, 2005.
31. 4th International Conference on Ontologies, DataBases, and Applications of Semantics (ODBASE), Agia Napa, Cyprus, Oct 31 – Nov 4, 2005.
32. K-Cap Workshop on Integrating Ontologies, Banff, Canada, October 2, 2005.
33. IFIP Working Conference on Virtual Enterprises (PRO-VE'05), Valencia, Spain, September 26–28, 2005.
34. 2005 IEEE Service International Conference on Services Computing (SCC 2005), Orlando, FL, July 12–15, 2005.
35. 3rd IEEE International Conference on Web Services, Orlando, FL, July 12–15, 2004.
36. 1st International Workshop on Contexts and Ontologies: Theory, Practice and Applications (an AAAI'05 Workshop), Pittsburgh, PA, July 9–10, 2005.
37. W3C Workshop on Frameworks for Semantics in Web Services, Innsbruck, Austria, June 9–10, 2005.
38. IEEE International Conference on Intelligence and Security Informatics (ISI-2005), Atlanta, GA, May 19–20, 2005.
39. 14th International World Wide Web Conference (WWW2005), Semantic Web Track, Chiba, Japan, May 10–14, 2005.
40. 21st International Conference on Data Engineering, Tokyo, Japan, April 2005.
41. 1st UK Young Researchers Workshop on Service Oriented Computing (YR–SOC), Leicester, UK, April 21–22, 2005.
42. 2nd International Conference on Service Oriented Computing (ICSOC'04), New York, NY, November 15–19, 2004.
43. 3rd International Conference on Semantic Web, Industry PC, Hiroshima, Japan, November 7–11, 2004.
44. 1st International Workshop on Semantic Web Technologies in Electronic Business, Berlin, Germany, October 11–13, 2004.
45. AAAI 2004 Workshop on Semantic Web Personalization, San Jose, CA, July 25–26, 2004.
46. IEEE International Conference on Web Services (ICWS 2004), San Diego, CA, July 6–9, 2004.
47. 13th International World Wide Web Conference (WWW2004): Web Services track, New York, NY, May 17–22, 2004.
48. 13th International World Wide Web Conference (WWW2004): Semantic Web track, New York, NY, May 17–22, 2004.

49. 2nd Workshop on Semantics in Peer-to-Peer and Grid Computing (at WWW2004), New York, May 17–18, 2004.
50. 4th International Conference on Web Information Systems Engineering (WISE'03), Rome, Italy, December 10–12, 2003.
51. 2nd International Conference on Ontologies, DataBases, and Applications of Semantics for Large Scale Information Systems (ODBASE'03), Sicily, November 3–7, 2003.
52. 12th International Conference on Information and Knowledge Management (CIKM 2003), New Orleans, LA, November 2–8, 2003.
53. 2nd International Semantic Web Conference, Sanibel, FL, October 20–24, 2003. (Senior PC Member)
54. Semantic Integration Workshop (at ISWC2003), Sanibel Island, FL, October 20, 2003.
55. Workshop on Semantic Web Technologies for Searching and Retrieving Scientific Data (at ISWC2003), Sanibel Island, FL, October 20, 2003.
56. Workshop on Practical and Scalable Semantic Systems (at ISWC2003), Sanibel Island, FL, October 19, 2003.
57. 2003 IEEE/WIC International Conference on Intelligent Agent Technology (IAT 2003), Beijing, China, October 13–17, 2003.
58. ICEC Workshop on Semantic Web Services for Enterprise Application Integration and E-Commerce, Pittsburg, PA, September 30–October 3, 2003.
59. Semantic Web Services for Enterprise Application Integration and E-Commerce (SWSEE03), Pittsburgh, PA, September 30, 2003.
60. 4th Annual International Conference on Object-oriented and Internet-based Technologies, Concepts, and Applications for a Networked World, Thuringia, Germany, September 22–25, 2003
61. Workshop on Semantic Web and Databases at the 29th International Conference on Very Large Data Bases (VLDB 2003) Berlin, Germany, September 9–12, 2003.
62. 1st International Workshop on Semantic Web and Databases, Berlin, Germany, September 7–8, 2003.
63. 7th International Workshop CIA-2003 on Cooperative Information Agents, Helsinki, Finland, August 27–29, 2003.
64. IEEE Conference on E-Commerce (CEC03), Newport Beach, CA, June 24–27 2003.
65. IEEE International Conference on Electronic Commerce (CEC'03), Newport Beach, CA, June, 2003.
66. 12th International World Wide Web Conference (WWW2003), Budapest, Hungary, May 20–24, 2003.
67. 1st Workshop on Semantics in Peer-to-Peer and Grid Computing at WWW 2003, Budapest, Hungary, 20 May 2003.
68. 1st International Conference on Ontologies, DataBases, and Applications of Semantics for Large Scale Information Systems (ODBASE'02), October 29–31, 2002.
69. 3rd International Symposium on Multi-Agent Systems, Large Complex Systems, and E-Businesses (MALCEB'2002), Erfurt, Thuringia, Germany, 8–10 October 2002.
70. 3rd Annual International Conference on Object-oriented and Internet-based Technologies, Concepts, and Applications for a Networked World, Thuringia, Germany, October 7–10, 2002.
71. Net.Object Days 2002, Erfurt, Germany, October 7–10, 2002.
72. 6th International Workshop CIA-2002 on Cooperative Information Agents, Madrid, Spain, September 18–22, 2002.
73. 2nd International Workshop on Databases, Documents, and Information Fusion (DBFusion 2002): Information Integration and Mining in Databases and on the Web, University of Karlsruhe, Germany, July 4–5, 2002.

74. 1st International Semantic Web Conference (ISWC-2002), Sardinia, Italy, June 10–12, 2002.

75. 11th International World Wide Web Conference (WWW2002), Semantic Web Track, Honolulu, HI, May 7–11, 2002.

76. 1st WWW 2002 Workshop on Real World RDF and Semantic Web Applications, Honolulu, HI, May 7, 2002.

77. 5th International Workshop CIA-2001 on Cooperative Information Agents, Modena, Italy, September 6–8, 2001.

78. 6th International Conference on Cooperative Information Systems (CoopIS 2001), Trento, Italy, September 5–7, 2001.

79. International Semantic Web Workshop: Infrastructure and Applications for the Semantic Web, Stanford, CA, July 30–31, 2001.

80. Autonomous Agents 2001, Montreal, Canada, 28 May–1 June 2001

81. 2nd International Workshop on the Semantic Web (SemWeb'2001) at WWW10, Hong Kong, May 1, 2001.

82. International Workshop on Information Integration on the Web: Technologies and Applications, Rio de Janeiro, Brazil, April 9–11, 2001

83. 5th International Workshop on Groupware (CRIWG'99) September 21–24, 1999, Cancun, Mexico.

84. 3rd International Workshop on Cooperative Information Agents (CIA-99), Uppsala, Sweden, July 31–August 2, 1999.

85. 9th RIDE International Workshop on Information Technology for Virtual Enterprises, Sydney, Australia, March 23–24 1999.

86. 2nd International Conference on Interoperating Geographic Information Systems (Interop'99) , Zurich, Switzerland, March 10–12 1999.

87. CSCW Workshop on Adaptive Workflow Systems, Seattle, WA, November 14, 1998.

88. 5th International Conference of Foundations of Data Organization (FODO'98), Kobe, Japan, November 12–14, 1998.

89. 11th International Conference on Parallel and Distributed Computing Systems, Chicago, IL, September 2–4, 1998.

90. International Workshop on Workflow Management (WFM'98), Vienna, Austria, August 28, 1998.

91. 3rd IFCIS International Conference on Cooperative Information Systems (CoopIS'98), August 1998, New York, NY.

92. ACM SIGMOD Conference, Seattle, Washington, June 2–4, 1998.

93. 18th International Conference on Distributed Computing Systems, Amsterdam, Netherlands, May 1998.

94. 6th International Conference on Extending Data Base Technology (EDBT'98), Valencia, Spain, March 23–27, 1998.

95. 2nd International Conference on Visual Information Systems (Visual '97), San Diego, CA December, 15–17, 1997.

96. nternational Conference on Management of Data (COMAD'97), Madras, India, December 1997.

97. 7th IFIP 2.6 Working Conference on Database Semantics (DS–7), Leysin, Switzerland, October, 7–10, 1997.

98. 8th International Conference on Database and Expert Systems Applications (DEXA'97), Toulouse, France, September 1–5, 1997.

99. 2nd IEEE Metadata Conference, Silver Spring, Maryland, September 16–17.

100. 1st IFCIS Conference on Cooperative Information Systems (COOPIS'96), Belgium, June 1996.

101. 5th International Conference on Extending Database Technology (EDBT'95), Avignon, France, March 1996

102. 5th IEEE RIDE Workshop on Interoperability of Nontraditional Databases (RIDE-IND'96), 1996.

103. 12th IEEE International Conference on Data Engineering, New Orleans, LA, February. 1996

104. 7th International Conference on Management of Data (COMAD'95), Pune, India, December 1995

105. 14th Object-oriented and Entity Relationship Modeling'95 (OO–ER95) , Gold Coast, Australia, December 1995.

106. 4th International Conference on Information and Knowledge Management, Baltimore, MD, November 1995

107. 2nd Next Generation Information Technologies and Systems (NGITS–95) , Israel, June 1995.

108. IFIP DS–6 Database Application Semantics, Georgia, May 1995.

109. 11th IEEE International Conference on Data Engineering, Taipei, Taiwan, April 1995.

110. 4th International Conference on Extending Database Technology (EDBT 95),Cambridge, UK, March 28–31, 1995.

111. 20th International Conference on Very Large Data Bases (VLDB 94), Chile, September 1994.

112. 1st International Conference on Application of Databases (ADB 94), Vadstena, Sweden, June 1994.

113. 2nd International Conference on Cooperative Information Systems (CoopIS 94), Toronto, Canada, May 17–20, 1994.

114. 10th IEEE International Conference on Data Engineering, April 1994..

115. 2nd International Conference on Information and Knowledge Management, 1993.

116. 9th IEEE International Conference on Data Engineering (ICDE 1993), Vienna, Austria, April 19–23, 1993.

117. 2nd International Conference on Parallel & Distributed Information Systems (PDIS 93), San Diego, CA, January 1993.

118. IFIP DS-5 Semantics of Interoperable Data Base Systems-92, Australia, November 1992.

119. 2nd International Workshop on Research Issues on Data Engineering: Transaction and Query Processing (RIDE-TQP), Tempe, AZ, February 2-3, 1992.

120. 8th IEEE International Conference on Data Engineering (ICDE 92), Tempe, AZ, February 1992.

121. 1st International Conference on Information and Knowledge Management (1991).

122. 21st International Conference on Distributed Computing Systems (ICDCS-21), Phoenix, AZ, April 16–19, 1991.

123. 1st International Workshop on Research Issues on Data Engineering: Interoperability in Multidatabase Systems (RIDE-IMS), Kyoto, Japan, April 7–9, 1991.

124. 7th IEEE International Conference on Data Engineering (ICDE 91), Kobe, Japan, April 8–12, 1991.
125. COMAD/Management of Data, Bombay, India, December 1991.
126. 1st International Conference on Databases, Parallel Architectures and their Applications (PARBASE-90), Miami, FL, March 6–9, 1990.
127. 2nd International Symposium on Database in Parallel and Distributed Systems, 1990.
128. 1st International Symposium on Database in Parallel and Distributed Systems, 1988.
129. 4th IEEE International Conference on Data Engineering, Los Angeles, CA, February 1988.

Other Services (Sessions, Reviews, Funding Panels)

Services to National and international funding Agencies as Proposal Reviewer

➢ **USA** (National Science Foundation), since 1987 (reviewed numerous research proposals for funding). Served on many panels and provided strategic input (e.g., CISE Area of Study on Web Information Systems in 2005).

➢ **Australian Research Council,** Expert Assessor of International Standing, 2003.

➢ **Canada** (National Science and Engineering Research Council) NSF equivalent–national research sponsorship organization (reviewer for several years).

➢ **Singapore** (Science & Engineering Research Council Agency for Science), 2005.

➢ **Austria** (Fonds zur Forderung der: FWF) 1999.

➢ **Norway** (Research Council of Norway) 1996, 1997, 1998, 2002, 2003.

➢ The **Netherlands** (the Netherlands Organization for Scientific Research, NOW), 2003, 2005.

➢ **Israel** (The Israel Science Foundation), 1996.

➢ **Hong Kong** (National Research Grants Council), 1996.

➢ Science Foundation, **Ireland**, 2001.

➢ German-Israeli Foundation for Scientific Research and Development, 2006.

Chaired Technical Sessions

DWP2005, WWW2004 (5/2004), WWW2003 (5/2003), 2nd International Workshop on the Semantic Web (5/2001), 8th IFIP 2.6 WC on Database Semantics (DS–8) (01/1999), IFIPWG 11.5 Conference on Integrity and Control in Information Systems (12/1997), 12th ICDE (02/96), 11th ICDE (04/1995), 4th IEEE RIDE (03/1995), 10th ICDE (05/1995), 9th ICDE, 04/1993), 7th ICDE (04/1991), 6th ICDE (02/1990), Etc.

Services to Journals as Referee

IEEE TKDE, VLDB Journal, ACM TODS, ACM TOIT, ACM TOIS, ACM Computing Surveys, Information Systems, Intelligent Information Systems, Distributed Systems Engineering, IEEE Transaction on Computers, Computer, IEEE Transaction on Software Engineering, BMC Bioinformatics, Journal of Selected Areas in Communication, Information Sciences, Software-Practice and Experiences, Information and Software Technology, Information Technology & Management, and practically all journals in the area of work.

Society Memberships

Senior Member (2003–2005; Fellow thereafter), Member, IEEE and IEEE Computer Society, including Technical Committee on Database Engineering, 1981–present. Member,

Association for Computing Machinery, including SIGMOD, 1981–present, SIGGROUP, 1997–2002.

Curriculum Development (Initiatives and Courses)

Initiatives

- On the steering committee of New Media Institute, approved starting Fall 2000. A campus-wide initiative covering many disciplines.
- On the steering committee of Masters in Internet Technology program, expected to be approved starting Fall 2000. An interdisciplinary professional degree program proposed by Management Sciences (Business School), Computer Science, and School of Journalism.

New Courses Defined/Offered

- Information Integration and Analysis, CS 790-03, offered at Wright State University starting Spring Quarter 2007.
- Semantic Web Services and Processes, CSCI 8351, defined and offered Spring 2004, (formerly Semantic Enterprise, defined and offered Fall 2002). For advanced graduate students, the earliest offering of a course on this topic in the world.
- Semantic Web, defined and offered Spring 2002. For advanced graduate students, one of the earliest offerings of a course on this topic in the world.
- Global Information Systems: Promises and Challenge, defined and offered since 1995. For Computer Science seniors and graduate students; often taken by students in other disciplines. One of the earliest Internet-based courses, with innovative mix of internet technologies and information systems.
- Enterprise Integration, defined and offered from 1995 to 2000. A one-of-a-kind course for Computer Science graduate students, sometimes taken by students in management. Covers issues in complex enterprise-wide solutions inthe real world. Main emphasis is on distributed computing and information systems and e-commerce technologies, but also shares real-world experiences.
- Internet Programming, 2000. For the new Masters in Internet Technology program.
- Internet Information Systems, 2000. For the new Masters in Internet Technology program.

External Curriculum Advising/Accreditation:

Program Evaluator/Accreditation Visitor for the Computer Sciences Accreditation Board (sponsored by IEEE and ACM), 1993–1998.

Instruction and Academic Services (since 1994)

Courses taught

CS 837	Advanced Database Systems	W '95
CS 490	Special Topics in Computer Science	Sp '95
CS 690	Special Topics in Computer Science	Sp '95
CS 203	Programming Project Design	F '95
CS 490	Global Information Systems	W '96
CS 690	Global Information Systems	W '96
CS 835	Enterprise Integration	W '96
CS 203	Programming Project Designs	F '96
CS 490	Global Information Systems	W '97
CS 690	Global Information Systems	W '97

CS 835	Enterprise Integration	W '97
CS 203	Programming Project Designs	F ' 97
CS 490	Global Information Systems	W '96
CS 690	Global Information Systems	W '98
CS 835	Enterprise Integration	W '98
CS 690	Advanced Global Information Systems	Sp '98
CSCI6350	Global Information Systems	F '99
CSCI8350	Enterprise Integration	Sp '99
CSCI8350	Enterprise Integration (w/ Arpinar)	Sp '00
CSCI8350	Enterprise Integration (w/ Cardoso)	Sp '01
CSCI8350	Semantic Web	Sp '02
CSCI8350	Semantic Enterprise	F'02
CSCI4350/6350	Global Information Systems	S'03
CSCI8350	Semantic Web	F'03
CSCI8351	Semantic Web Services & Processes	S'04
CSCI8350	Semantic Web	F'04
CSCI4350/6350	Global Information Systems	S'05
CSCI8350	Semantic Web	F'05
CSCI8351	Semantic Web Services & Processes	S'06

Supervision of Student Research

Major Professor for Students
o Vipul Kashyap, PhD, "Information Brokering over Heterogeneous Digital Data," October 1997. (Note: Student's degree is from Rutgers University, NJ, but Dr. Sheth is his research adviser.)
o Devashish Worah, MS, "Error Handling and Recovery for the ORBWork Workflow Enactment Service in METEOR," June 1997.
o Srilekha Mudumbai, MS, "ZEBRA Image Access System," June 1997.
o Selvam Velmurugan, MS, "Collaborative Tele-Consulting for Healthcare: CATCH," September 1997.
o Krishnan Parsuraman, MS, "Agent Support in the InfoQuilt System," December 1998.
o Clemens Bertram, MS, "Metadata and Ontology Based Query Processing in the InfoQuilt System, December 1998.
o Vineet Mahajan, MS, "A Multi-Agent System for Metadata Management and Information Brokering ," December 1999.
o Subrajit Ray, MS, "Ontology-based Media Independent Correlation of Information ccross Heterogeneous Distributed Sources," December 1999.
o Mukesh Guntamadugu, MS, "MÉTIS: Automating Metabase Creation from Multiple Heterogeneous Sources," July 2000.
o Dilpreet Singh, MS, "An Agent Based Architecture For Query Planning And Cost Modeling Of Web Sources," July 2000.
o Sriram Lakshminarayan, "Semantic Interoperability in Digital Libraries using Inter–Ontological Relationships," July 2000.
o Narayan Palsena, MS, "A Collaborative Approach to Learning using Information Landscapes," 2000.
o Zhongqiao Li, MS, "Using Collaboration Task in OrbWork Enactment System for METEOR Workflow Management System, August 2000.

- o Zongwei Luo, PhD, Knowledge Sharing, Coordinated Exception Handling, and Intelligent Problem Solving for Cross–Organizational Business Processes, February 2001.
- o Sanjeev Thacker, MS, "Knowledge Modeling for Study of Domains and Inter–domain Relationships – A Learning Paradigm," July 2001.
- o Shuchi Patel, MS, "Planning and Optimizing Semantic Information Requests on Heterogeneous Information Sources Using Semantically Modeled Domain and Source Characteristics,"July 2001.
- o Wonjung Kim, MS, "Knowledge Based Personalization," December 2001.
- o Madhan Arumugam, M.S., "The Peer-to-Peer Semantic Web : A Distributed Environment for Sharing Semantic Knowledge on the Web," December 2001.
- o Jorge Cardoso, PhD, Quality of Service and Semantic Composition of Workflows, August 2002.
- o Kaarthik Sivashanmuga, MS (co-adviser: J. Miller), "The METEOR-S Framework for Semantic Web Process Composition," August 2003.
- o Abhijit Patil, MS METEOR-S Web Service Annotation Framework, December 2003.
- o Christian Halaschek-Wiener, MS (co-adviser: I.B. Arpinar) "A Flexible Approach for Ranking Complex Relationships on the Semantic Web,"
- o Rohit Aggrawal, MS, August 2004. (co-adviser: J. Miller).
- o Swapna Onudhakar, MS, December 2004.
- o William Milnor MS (co-adviser), Discovering Informative Subgraphs in RDF Graphs, August 2005.
- o Ravi Pavagada, MS, IR based Search in Semantic Web, Summer 2006. *
- o Bilal Gonen, MS, Semantic Browser, Summer 2006. *
- o Kunal Verma, PhD (co-adviser), Configuration and Adaptation of Semantic Web Processes, July 2006.

Current Doctoral Students (as of 5/2006, partial list)

Kemafor Anyanwu, Cartic Ramakrishnan, Matt Perry, Angela Madoko, Satya Sahoo, Karthik Gomadam, Christopher Thomas, Meenakshi Nagarajan, Ajith Ranabahu, Pablo Mandes, Prateek Jain.

Post Doctoral and Research Fellow Supervision

Yanbo Han (PostDoc), Chinese Academy of Sc., 1995–1997; Eduardo Mena (Ph.D. candidate, "OBSERVER: An Approach for Query Processing in global Information Systems based on Interoperation across Pre-exisiting Ontologies," Basque State University, Spain), Basque State U., 1996–1998; Isabel Scheiding (Ph.D. candidate, University of Frankfurt, Germany), 7/1997– 12/1997; Tascisio Lima (Ph.D. student, University of Brazil), 8/1998–6/2000; Shengli Wu, U. Sheffield, 2000–2002; I.B. Arpinar, METU–Turkey, 2000–2002; Farshad Hakimpour, U. Zurich, Switzerland, 2005–2006.

External Academic Advising

- External expert reviewer for Ph.D. candidate Manual Garcia Solaco, Facultat d'Informatica de la Universitat Politechica de Cataluna, Barcelona, 1994.
- External adviser and dissertation committee member for Ph.D. student George Karabatis, Univ. of Houston, "Management of Interdependent Data ub a Multidatabase Environment: A Polytransaction Approach," May 1995.

- Member of Ph.D. dissertation committee for Quiang Zhu, "Estimating Local Cost Parameters for Global Query Optimization in a Multidatabase System," University of Waterloo, Canada, August 1995.
- Member of Ph.D. dissertation committee (Jury) for Philippe Thiran, [Legacy database federation. A combined forward–Reverse approach](), Institut d'Informatique, F.U.N.D.P. (Univ. of Namur), Belgium, September 2003.

University and Public Service

Served as the primary consultant and directed development to benefit UGA administration in the form of CAPA for the Vice President for Academic Affairs (7/96–6/97) and GradWeb for the Graduate School (7/97– 6/97). Both are fully functional/operational Web-based applications.

- Institute of Bioinformatics, membership committee, 2004–present.
- GIScience Faculty Resource at UGA, 1997– present. Alternate UCGIS rep. for several years.
- Participation in multicultural and under represented group related activities:
  - Panel: "Road Less Traveled: Entrepreneurship & Leadership," 2006 Alumni Networking & Professional Development Conference, organized by UGA Multicultural Programs, March 25, 2006.
  - Mentored one faculty and one student under 1995 Summer Undergraduate Research Program for Minority Students and Faculty in Minority Institutions.
  - Mentored two students under 1996 Summer Undergraduate Research Program for Minority Students.

Service provided in the form of committee participation at UGA–CS department.

- Member of Graduate Faculty, 1994 – present.
- Participation in Departmental Committees at UGA–CS department:

  - Equipment Committee, 1994 – 2006.
  - Faculty Search Committee, 1995, 2000, 2004.
  - Graduate Admissions Committee, also Aid Committee, 1996 – 2006.
  - Space Committee, 1997 – 1998.