

VITA

Sandip Sen

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Degrees Earned

Ph.D. in Computer Science and Engineering, The University of Michigan, Ann Arbor, MI, December, 1993.

M.S. in Electrical Engineering, The University of Alabama, Tuscaloosa, AL, December, 1988.

B.S. in Electronics & Tele-Communications Engineering, Jadavpur University, Calcutta, India, June, 1986.

Area(s) of specialization:

Artificial Intelligence, Multiagent Systems, Intelligent Agents, Electronic Commerce, Machine Learning, Genetic Algorithms, Classifier Systems, Adaptive Systems.

Professional Experience (Teaching, research and administration):

Professor, Department of Mathematical & Computer Sciences, University of Tulsa, Tulsa, OK (September, 2004 – present)

Associate Professor, Department of Mathematical & Computer Sciences, University of Tulsa, Tulsa, OK (September, 1998 – August, 2004)

Assistant Professor, Department of Mathematical & Computer Sciences, University of Tulsa, Tulsa, OK (August, 1993 – August, 1998)

Research assistant in EECS Department, The University of Michigan, Ann Arbor, MI (May, 1990 – August, 1993)

Teaching assistant in EECS Department, The University of Michigan, Ann Arbor, MI (September, 1989 – April, 1990)

Teaching assistant in EE Department, The University of Alabama, Tuscaloosa, AL (September, 1987 – May, 1989)

Research Associate, The Rowland Institute for Science, Cambridge, Massachusetts, (May, 1988–August, 1988)

Research & Development Engineer, Hindustan Computer Limited, New Delhi, India, (May, 1986–September, 1986)

Professional Memberships:

Life Member of American Association for Artificial Intelligence, Associate Member of Association for Computing Machinery.

Honors and Awards:

Outstanding Researcher Award, College of Engineering and Natural Sciences, University of Tulsa, 1999.
CAREER Award, National Science Foundation, April, 1997.
Outstanding Professor Award, Tau-Beta-Pi, November 1996.
Research Initiation Award, National Science Foundation, July, 1994.
Graduate School Fellowship, University of Alabama, August, 1988.
National Merit Scholarship (India), April, 1980.

Funded Proposals

- *Secure Sensor Infrastructure for Communications and Surveillance*. Defense University Research Instrumentation Program, ARO. \$70,050 for 1 year (awarded March, 2006); co-PI with Johnson Thomas.
- *AAMAS-2006 Student Travel Grant*. National Science Foundation, \$65,000 for 1 year. (awarded February, 2006)
- *Coordinating spacecrafts, rovers, and ground-based stations to rapidly respond to emerging situations*. NASA EPSCoR Research Initiation Grant, NCC5-586, \$22,000 for 6 months. (awarded January, 2006)
- *AAMAS-2005 Student Travel Grant*. National Science Foundation, \$56,250 for 1 year. (awarded May, 2005)
- Co-PI on *Secure Framework for Sensor Networks*, \$202,440, Army Research Office/OSRHE for 3 years (awarded April, 2005).
- *Scalable Mechanisms for Coherent Group Activities in Agent Communities*. NASA, \$156,530 for 2 years. (awarded July, 2004.)
- Co-PI on *Developing Programs and Research Expertise in Intelligent Information Networks*. Department of Education – FIPSE, \$198,700 for 1 year (awarded September, 2003).
- *Agent Based Bidding in Electronic Auctions*. National Science Foundation, \$351,123 for 3 years. (awarded June, 2002)
- *Learning agents for robust, scalable applications*. NASA EPSCoR Research Initiation Grant, \$21,022 for 6 months. (awarded January, 2002)
- *ICMAS-2000 Student Travel Grant*. National Science Foundation, \$24,375 for 1 year. (awarded June, 2000)
- *ICMAS/Agents World Travel Grant*. National Science Foundation, \$27,375 for 1 year. (awarded June, 1998)
- *CAREER: Learning to Cooperate and Compete*. Faculty Early Career Development Award. National Science Foundation. \$250,000 for 5 years, starting August, 1997.

- *An introduction to Science and Engineering for Early High School Students*. Oklahoma State Regents for Higher Education, \$72,000, for 1 year (awarded December, 1996).
- *Designing and Implementing a Distributed Meeting Scheduler: Research Experience for Undergraduates Supplement*. National Science Foundation, \$20,000 for 2 years.
- *CAETI: Advanced Methodologies for Verifying Heterogeneous Systems*, ARPA, \$125,000 for 2 years (awarded June, 1995); co-PI with Rose Gamble.
- *RIA: Designing and Implementing a Distributed Meeting Scheduler*. Research Initiation Award, National Science Foundation, \$100,000 for 3 years (awarded July, 1994).

PUBLICATIONS

Book(s)

1. J. Müller, E. Andre, S. Sen, and C. Frasson (Editors), “Proceedings of the Fifth International Conference on Autonomous Agents,” ACM Press, New York: NY, 2001.
2. L. Spector, E. Goodman, A. Wu, W. Langdon, H-M. Voigt, M. Gen, S. Sen, M. Dorigo, S. Pezeshk, M. Garzon, and E. Burke (Editors), “GECCO-2001: Proceedings of the Genetic and Evolutionary Computation Conference,” Morgan Kaufmann, San Francisco, CA, 2001.
3. G. Weiss and S. Sen (Editors), “Adaption and Learning in Multiagent Systems,” Series: Lecture Notes in Computer Science; Subseries: Lecture Notes in Artificial Intelligence, Volume No. 1042. Springer-Verlag: New York, NY. 1996.

Journal Articles (published or accepted)

1. D. Banerjee and S. Sen, “Reaching Pareto Optimality in Prisoner’s Dilemma Using Conditional Joint Action Learning,” in *Journal of Autonomous Agents and Multiagent Systems* (to appear).
2. T. Candale and S. Sen, “A Comparison of Bidding Strategies for Simultaneous Auctions,” in *SIGecom Exchange* (to appear).
3. S. Sen, S. Saha, and K. Hernandez, *A Prototype “Buyer Agent” to Enhance Consumer Awareness*, in *Electronic Commerce Research and Applications* (to appear).
4. M. McGlohon and S. Sen, “Learning to cooperate in multi-agent systems by combining Q-learning and evolutionary strategy,” in *International Journal on Lateral Computing*, Volume 1, Number 2, pages 58–64, August, 2005.
5. S. Saha & S. Sen, “Aggressive Pricing to Exploit Market Niches in Supply Chains,” *IEEE Intelligent Systems*, Volume 20, Number 1, pages 36–41, January/February, 2005.
6. S. Sen, P.S. Dutta, and S. Debnath, ”CHAYANI: A Shopper’s Assistant,” *Journal of Intelligent Systems*, Volume 14, Number 1, pages 3–23, 2005.

7. S. Saha and S. Sen: "Opportunistic scheduling and pricing in supply chains" in "KI- Zeitschrift fr Knstliche Intelligenz (AI - Journal of Artificial Intelligence)" Volume 18(2), pages 17–24, 2004.
8. B. Banerjee, S. Sen, and J. Peng, "On-Policy Concurrent Reinforcement Learning," *Journal of Experimental & Theoretical Artificial Intelligence (JETAI)*, Volume 16, Number 4, pages 245 - 260, 2004.
9. S. Airiau and S. Sen, "Strategic bidding for multiple units in simultaneous and sequential auctions", *Group Decision and Negotiation*, Vol. 12, pages 397–413, 2003 (Special Issue on "Theory and Practice of Computational Coordination Mechanisms in Multi-Agent Systems").
10. P.S. Dutta and S. Sen, "Forming Stable Partnerships," *Cognitive Systems Research*, Volume 4, No. 3, pages 211–221, 2003 (special issue on "Cognitive Agents and Multiagent Interactions").
11. R. Mukherjee, N. Sajja and S. Sen, "A Movie Recommendation System: An Application of Voting Theory" *User Modeling and User-adapted Interaction*, Vol. 13, nos. 1-2, pages 5-33, 2003 (special issue on "Intelligent Agents").
12. S. Sen, "Believing Others: Pros and Cons," *Artificial Intelligence*, vol 142/2, pages 179-203, 2002.
13. P.P. Kar, S. Sen, and P.S. Dutta, "Effect of individual Opinions on Group Interactions", *Connection Science*, Vol. 14, No. 4, pages 335–344, December 2002 (special issue on "Agent Autonomy and Groups").
14. S. Debnath, S. Sen, and B. Blackstock, "LawBOT: an assistant for legal research," *IEEE Internet Computing*, Volume 4, Number 6, pages 32–37, November/December, 2000.
15. B. Banerjee, A. Biswas, M. Mundhe, S. Debnath & S. Sen, "Using Bayesian Networks to Model Agent Relationships," *Applied Artificial Intelligence Journal*, Volume 14, Number 9, pages 867–880, 2000 (Special issue on "Deception, Fraud and Trust in Agent Societies").
16. A. Biswas, S. Sen & S. Debnath, "Limiting Deception in Groups of Social Agents," *Applied Artificial Intelligence Journal*, Volume 14, Number 8, pages 785–797, 2000 (Special issue on "Deception, Fraud and Trust in Agent Societies").
17. N. Puppala and S. Sen, "Evolving cooperative groups using shared memory", *Journal of Advanced Computational Intelligence*, vol 3, no. 6, pages 457–461, 1999 (special issue on "Learning in Intelligent Algorithms and Systems Design").
18. S. Sen, "Multiagent Systems: Milestones and New Horizons," *Trends in Cognitive Science*, vol. 1, no. 9, pages 334–339, 1997.
19. S. Sen and M. Sekaran, "Individual learning of coordination knowledge," *Journal of Experimental & Theoretical Artificial Intelligence*, 10, pages 333–356, 1998 (special issue on Learning in Distributed Artificial Intelligence Systems).

20. S. Sen, T. Haynes, and N. Arora , “Satisfying User Preferences while Negotiating Meetings” *International Journal of Human-Computer Studies*, vol. 47, pages 407–427, 1997 (special issue on Group Support Systems).
21. T. Haynes & S. Sen, “Co-adaptation in a team,” accepted for publication in *International Journal of Computation Intelligence and Organizations*, vol 1, no. 4.
22. S. Sen, “Evolution and learning in multiagent systems,” *International Journal of Human-Computer Studies*, vol. 48, no. 1, pages 1–7, 1998 (special issue on Learning and Evolution in Multiagent Systems).
23. T. Haynes and S. Sen, “Learning Cases to resolve conflicts and improve group behavior,” *International Journal of Human-Computer Studies*, vol. 48, no. 1, pages 31–49, 1998 (special issue on Learning and Evolution in Multiagent Systems).
24. S. Sen, N. Arora, and S. Roychowdhury, “Using limited information to enhance group stability,” *International Journal of Human-Computer Studies*, vol. 48, no. 1, pages 69–82, 1998 (special issue on Learning and Evolution in Multiagent Systems).
25. S. Sen and S. Ghosh, “A Vision of Organization-wide Information Sharing with Proactive Agents,” *International Journal of Information & Computing Science (IJICS)*, Volume 1, Number 1, Pages 11-23, 1998.
26. S. Sen and E.H. Durfee, ”A Formal Study of Distributed Meeting Scheduling,” *Group Decision and Negotiation*, volume 7, pages 265-289, 1998.
27. S. Sen, “Developing an automated distributed meeting scheduler,” *IEEE Expert*, vol. 12, no. 4, pages 41–45, July/August 1997.
28. S. Sen and E.H. Durfee, “A Contracting Model for Flexible Distributed Scheduling,” *Annals of Operations Research*, volume 65, pages 195-222, 1996.
29. Rajani Nadella, Neeraj Arora and Sandip Sen, “A testbed for studying coordination in autonomous agents,” *International Journal of Micro-Computer Applications*, vol. 18, no. 2, pages 49–53, 1999.
30. S. Sen, “IJCAI-95 Workshop on Adaptation and Learning in Multiagent Systems”, *AI Magazine*, Volume 17, No. 1, pages 87-89, Spring 1996.
31. S. Sen and E.H. Durfee, “The role of commitment in cooperative negotiation,” *International Journal on Intelligent & Cooperative Information Systems*, vol. 3, no. 1, pages 67-81, 1994.
32. S. Sen, J. Janakiraman, and S. Paul. “Genetic Utility Optimizer”, *Journal of Information Science and Technology*, vol. 1, no. 4, pp. 253-261, July, 1992.

Book chapters

1. T. Candale, I. Erete, and S. Sen, “Using inertia and referrals to facilitate satisficing distributions,” in *Distributed Computing – IWDC 2005*, A. Pal, A. D. Kshemkalyani, R. Kumar and A. Gupta (editors), pages 572–577, Springer, 2005.

2. S. Saha and S. Sen: "A Bayes Net Approach to Argumentation-Based Negotiation," in *Argumentation in Multi-Agent Systems*, I. Rahwan, P. Moraitis, and C. Reed (editors), pages 208-222, Springer, 2005.
3. A. Ghosh and S. Sen, "Agent-Based Distributed Intrusion Alert System," in *Distributed Computing – IWDC 2004*, A.Sen, N. Das, S.K. Das *et al.* (editors), pages 240–251, Springer, 2004.
4. S. Saha and S. Sen, "Local decision procedures for avoiding the Tragedy of Commons," in *Distributed Computing – IWDC 2003*, pages 311-320, Samir R. Das and Sajal K. Das (Editors), Springer: New York, NY, 2004.
5. S. Airiau, S. Sen, D.H. Wolpert and K. Tumer, "Providing effective access to shared resources: a COIN approach", in "Engineering Self-Organising Systems: Nature-Inspired Approaches to Software Engineering", pages 249–264, Giovanna Di Marzo Sergendo, Anthony Karageorgos, Omer F. Rana and Franco Zambonelli (Eds.), Springer: New York, NY, 2004.
6. S. Sen, P.S. Dutta, and S. Saha "Emergence and stability of cooperation among rational agents," in "Cooperative Information Agents VII," pages 192–205, Mathias Klusch, Andrea Omicini, Sascha Ossowski, and Heimo Laamanen (Eds.), Springer: New York, NY. 2003.
7. S. Saha and S. Sen, "Scheduling to be competitive in supply chains," in "Intelligent Systems Design and Applications," pages 459–468, Ajith Abraham, Katrin Franke and Mario Köppen (Eds.), Springer: New York, NY. 2003.
8. S. Sen, S. Debnath, and M. Mundhe, "Evolving coordinated agents" in "THEORY AND APPLICATION OF EVOLUTIONARY COMPUTATION : RECENT TRENDS", A. Ghosh and S. Tsutsui (Editors), Springer-Verlag, pages 559–577, 2003.
9. B. Banerjee and S. Sen, "Selecting partners," in "Game theory and decision theory in agent-based systems", Simon Parsons, Piotr Gmytrasiewicz, & Michael Wooldridge (Editors), pages 29–42, Kluwer, 2002.
10. S.W. Nuchia and S. Sen, "Improving Optimality of n -agent Envy-Free Divisions," in "Intelligent Agents VIII", John-Jules Ch. Meyer & Milind Tambe (Editors), pages 277–289, Springer-Verlag, New York, NY, 2002.
11. R. Mukherjee, S. Sen and B. Banerjee, "Learning Mutual Trust," in *Trust in Cyber-Societies: Integrating the Human and Artificial Perspectives*, Rino Falcone, Munindar Singh, & Yao-Hua Tan (Editors), pages 145–157, Springer-Verlag, New York, NY, 2001.
12. S. Sen and A. Biswas and S. Ghosh, "Adaptive Choice of Information Sources," in "Intelligent Information Agents," Matthias Klusch (Editor), pages 258-278, Springer-Verlag: New York, 1999.
13. S.Sen and G. Weiss, "Learning in DAI Systems," chapter 6, in "Multiagent Systems: A Modern Approach to DAI," G. Weiss (Editor), MIT Press, Cambridge, MA, 1999.

14. S. Sen, M. Sekaran, and J. Hale, "Learning to coordinate without sharing information," in "Readings in AGENTS," Michael N. Huhns & Munindar P. Singh (Editors), Morgan Kaufmann: San Francisco, CA, 1998.
15. S. Sen, "Adaptive choice of information sources," in "Cooperative Information Agents II," pages 509–514, Mathias Klusch and Gerhard Weiss (Eds.), Springer-Verlag: New York, NY. 1998.
16. R. Nadella and S. Sen, "Correlating internal parameters and external performance: learning Soccer agents," in "DAI meets ML," Gerhard Weiß(Editor), pages 137–150, Springer-Verlag: New York, 1997.
17. S. Sen, L. Knight, K. Legg, "Prototype based supervised concept learning using genetic algorithms" in "Evolutionary Algorithms in Engineering Applications" (D. Dasgupta and Z. Michalewicz, eds.), pages 223-239, Springer-Verlag: New York, 1997.
18. T. Haynes and S. Sen, "Evolving Behavioral Strategies in Predators and Prey", in ADAPTION AND LEARNING IN MULTIAGENT SYSTEMS, G. Weiss and S. Sen (eds.), Springer-Verlag Lecture Notes in Artificial Intelligence, Volume No. 1042. Springer-Verlag: New York, NY. 1996.
19. S. Sen and M. Sekaran, "Multiagent coordination with learning classifier system", in ADAPTION AND LEARNING IN MULTIAGENT SYSTEMS, G. Weiss and S. Sen (eds.), Springer-Verlag Lecture Notes in Artificial Intelligence, Volume No. 1042. Springer-Verlag: New York, NY. 1996.
20. S. Sen and M. Sekaran, "Using reciprocity to adapt to others", in ADAPTION AND LEARNING IN MULTIAGENT SYSTEMS (G. Weiss and S. Sen (eds.), Springer-Verlag Lecture Notes in Artificial Intelligence, Volume No. 1042. Springer-Verlag: New York, NY. 1996.
21. E.H. Durfee, D. Damouth, M. Huber, T.A. Montgomery, and S. Sen, "The Search for Coordination: Knowledge-guided abstraction and search in a hierarchical behavior space," in ARTIFICIAL SOCIAL SYSTEMS (Castelfranchi and Werner, eds.), Springer-Verlag Lecture Notes in Artificial Intelligence, pages 187-206, 1994.

Refereed conference publications

1. S. Sen and D. Banerjee, "Monopolising Markets by Exploiting Trust," in *Proceedings of the Fifth International Joint Conference on Autonomous Agents & Multi Agent Systems*, Hakodate, Japan, May 2006 (to appear).
2. S. Airiau, S. Sen, and P. Dasgupta, "Effect of joining decisions on peer clusters," in *Proceedings of the Fifth International Joint Conference on Autonomous Agents & Multi Agent Systems*, Hakodate, Japan, May 2006 (to appear).
3. T. Candale and S. Sen, "Evaluating Bidding Strategies for Simultaneous Auctions," in *Proceedings of the Fifth International Joint Conference on Autonomous Agents & Multi Agent Systems*, Hakodate, Japan, May 2006 (to appear).

4. S. Airiau and S. Sen, “Learning to commit in repeated games,” in *Proceedings of the Fifth International Joint Conference on Autonomous Agents & Multi Agent Systems*, Hakodate, Japan, May 2006 (to appear).
5. S. Saha and S. Sen, “Negotiating Efficient Outcomes over Multiple Issues,” in *Proceedings of the Fifth International Joint Conference on Autonomous Agents & Multi Agent Systems*, Hakodate, Japan, May 2006 (to appear).
6. I. Erete, T. Candale, and S. Sen, “Effect of deceptive referrals on system stability,” in *Proceedings of the Fifth International Joint Conference on Autonomous Agents & Multi Agent Systems*, Hakodate, Japan, May 2006 (to appear).
7. D. Chakraborty and S. Sen, “Teaching New Teammates,” in *Proceedings of the Fifth International Joint Conference on Autonomous Agents & Multi Agent Systems*, Hakodate, Japan, May 2006 (to appear).
8. T. Candale and S. Sen, “Fast convergence to satisfying distributions,” in the *Proceedings of the Nineteenth International Joint Conference on Artificial Intelligence*, pages 1657–1658, Edinburgh, Scotland, 2005.
9. S. Sen, T. Candale, and S. Basak, “Profit Sharing Auction,” in *Proceedings of the Twentieth National Conference on Artificial Intelligence* (pages 170-175), Pittsburgh, PA, July, 2005.
10. S. Sen, S. Saha and D. Banerjee, “Trust-Based Contracting in Supply Chains,” in *Proceedings of the Fourth International Joint Conference on Autonomous Agents and Multiagent Systems* (pages 1251–1252), Utrecht, Netherlands, July, 2005. (Poster paper)
11. S. Saha and S. Sen, “Predicting Agent Strategy Mix of Evolving Populations,” in *Proceedings of the Fourth International Joint Conference on Autonomous Agents and Multiagent Systems* (pages 1075–1082), Utrecht, Netherlands, July, 2005.
12. D. Banerjee, S. Saha, P. Dasgupta, and S. Sen, “Reciprocal resource sharing in P2P environments,” in *Proceedings of the Fourth International Joint Conference on Autonomous Agents and Multiagent Systems* (pages 853–859), Utrecht, Netherlands, July, 2005.
13. T. Candale and S. Sen, “Effect of referrals on convergence to satisficing distributions,” in *Proceedings of the Fourth International Joint Conference on Autonomous Agents and Multiagent Systems* (pages 347–354), Utrecht, Netherlands, July, 2005.
14. A. Ghosh and S. Sen, “Theory of Moves Learner,” in *Proceedings of the Fourth International Joint Conference on Autonomous Agents and Multiagent Systems* (pages 74–80), Utrecht, Netherlands, July, 2005.
15. S. Saha, A. Biswas, and S. Sen, “Modeling opponent decision in repeated one-shot negotiations,” in *Proceedings of the Fourth International Joint Conference on Autonomous Agents and Multiagent Systems* (pages 397–403), Utrecht, Netherlands, July, 2005.
16. S. Saha and S. Sen, “A Bayes Net Approach to Argumentation,” in *Proceedings of the 3rd International Joint Conference on Autonomous Agents and Multi Agent Systems (AAMAS-04)*, (pages 1436-1437), NY, USA, July, 2004.

17. D. Banerjee, S. Saha and S. Sen, "Adapting agent expertise based on future expectations," in *Proceedings of the 3rd International Joint Conference on Autonomous Agents and Multi Agent Systems (AAMAS-04)*, (pages 1400-1401), NY, USA, July, 2004.
18. P.P. Kar and S. Sen, "Agent teaching agent framework," in *Proceedings of the First Indian International Conference on AI* (pages 1282-1295), Hyderabad, India, 2003.
19. S. Sen, S. Saha, P.S. Dutta, "Helping based on future expectations" in *Proceedings of the Second International Joint Conference on Autonomous Agents and Multiagent Systems*, (pages 289-296), Melbourne, Australia, 2003.
20. S. Sen, R. Mukherjee, and S. Airiau, "Towards a Pareto-optimal solution in general-sum games," in *Proceedings of the Second International Joint Conference on Autonomous Agents and Multiagent Systems* (pages 153-160), Melbourne, Australia, 2003.
21. P.P. Kar and Sandip Sen, "The Agent-Teaching-Agent Framework," in *Proceedings of the Second International Joint Conference on Autonomous Agents and Multiagent Systems* (pages 1028-1029) Melbourne, Australia, 2003. (Poster paper)
22. S. Sen and N. Sajja, "Selecting service providers from noisy reputations," in *Proceedings of the Second International Joint Conference on Autonomous Agents and Multiagent Systems* (pages 1114-1115) Melbourne, Australia, 2003. (Poster paper)
23. S. Airiau, S. Sen, and G. Richard, "Strategic Bidding for Multiple Units in Simultaneous and Sequential Auctions," in the *Proceedings of the Thirty-Sixth Annual Hawaii International Conference on System Sciences*, 2003.
24. S. Sen and P.S. Dutta, "The evolution and stability of cooperative traits," in *Proceedings of the First International Joint Conference on Autonomous Agents and Multiagent Systems* (pages 1114-1120), ACM Press, New York, NY, 2002.
25. S. Sen and N. Sajja, "Robustness of reputation-based trust: Boolean Case," in *Proceedings of the First International Joint Conference on Autonomous Agents and Multiagent Systems* (pages 288-293), ACM Press, New York, NY, 2002.
26. P.S. Dutta and Sandip Sen, "Optimal sequencing of individually rational contracts," in *Proceedings of the First International Joint Conference on Autonomous Agents and Multiagent Systems* (pages 607-612), ACM Press, New York, NY, 2002.
27. S. Sen and P.S. Dutta, "Emergence of Stable Coalitions via Task Exchanges," in *Proceedings of the First International Joint Conference on Autonomous Agents and Multiagent Systems* (pages 312-313), ACM Press, New York, NY, 2002. (Poster paper)
28. Sandip Sen, Sabyasachi Saha and Partha Sarathi Dutta: "Web Query Reformulation by Knowledgeable Agents", in *Proceedings of the 45th IEEE Midwest Symposium on Circuits and Systems*, August 4-7 2002.
29. B. Banerjee, S. Sen and J. Peng, "Fast Concurrent Reinforcement Learners," in *Proceedings of the Seventeenth International Joint Conference on Artificial Intelligence* (pages 825-830), Morgan Kaufmann, Orlando, FL, 2001.

30. R. Mukherjee, P. S. Dutta, G. Jonsdottir, and S. Sen, "Movies2Go - An Online Voting Based Movie Recommender System," in *Proceedings of the Fifth International Conference on Autonomous Agents* (pages 114–115), ACM Press, New York, NY, 2001. (Poster paper)
31. S. Debnath, P. S. Dutta and S. Sen, "A Shopper's Assistant," in *Proceedings of the Fifth International Conference on Autonomous Agents* (pages 59–60), ACM Press, New York, NY, 2001. (Poster paper)
32. P. S. Dutta and S. Sen, "Identifying partners and sustenance of stable, effective coalitions," in *Proceedings of the Fifth International Conference on Autonomous Agents* (pages 23–24), ACM Press, New York, NY, 2001. (Poster paper)
33. B. Banerjee, S. Debnath, and S. Sen, "Combining Multiple Perspectives," in *Proceedings of the Seventeenth International Conference on Machine Learning* (pages 33–40), Morgan Kaufmann, San Francisco, CA, 2000.
34. S. Sen, A. Biswas, and S. Debnath, "Believing others: Pros and Cons," in *Proceedings of the Fourth International Conference on Multiagent Systems* (pages 279–286), IEEE Press, Los Alamitos, CA, 2000.
35. S. Sen and P.S. Dutta, "Searching for optimal coalition structures," in *Proceedings of the Fourth International Conference on Multiagent Systems* (pages 286–292), IEEE Press, Los Alamitos, CA, 2000.
36. M. Mundhe and S. Sen, "Evaluating concurrent reinforcement learners," in *Proceedings of the Fourth International Conference on Multiagent Systems* (pages 421–422), IEEE Press, Los Alamitos, CA, 2000. (Poster paper)
37. M. Mundhe and S. Sen, "Agent Societies without dilemmas: an evolutionary approach," in *Proceedings of the Fourth International Conference on Multiagent Systems* (pages 431–432), IEEE Press, Los Alamitos, CA, 2000. (Poster paper)
38. S. Sen and A. Biswas, "More than envy-free," in *Proceedings of the Fourth International Conference on Multiagent Systems* (pages 433–434), IEEE Press, Los Alamitos, CA, 2000. (Poster paper)
39. M. Mundhe and S. Sen, "Evolving agent societies that avoid social dilemmas," in *Proceedings of the Genetic and Evolutionary Computation Conference (GECCO-2000)* (pages 809–816), Morgan Kaufmann, San Francisco, CA, 2000.
40. S. Sen and K. Hernandez, "A Buyer's Agent," in *Proceedings of the Fourth International Conference on Autonomous Agents* (pages 156–162), ACM Press, New York, NY, 2000.
41. B. Banerjee and S. Sen, "Selecting Partners," in *Proceedings of the Fourth International Conference on Autonomous Agents* (pages 261–262), ACM Press, New York, NY, 2000. (Poster paper)
42. A. Biswas and S. Sen, "Influence of perspectives on help-giving behaviors," in *Proceedings of the Third International Conference on Autonomous Agents* (pages 352–353), ACM Press, New York, NY, 1999. (Poster Paper)

43. A. Biswas and S. Sen, "Learning to model behaviors from boolean responses," in *Proceedings of the Third International Conference on Autonomous Agents* (pages 396–397), ACM Press, New York, NY, 1999. (Poster Paper)
44. S. Ghosh, M. Mundhe, K. Hernandez, and S. Sen, "Voting for movies: the anatomy of a recommender system," in *Proceedings of the Third International Conference on Autonomous Agents* (pages 434–435), ACM Press, New York, NY, 1999. (Poster Paper)
45. S. Sen and A. Biswas, "Effects of misconception on reciprocative agents," in *Proceedings of the Second International Conference on Autonomous Agents* (pages 430–435), ACM Press, New York, NY, 1998.
46. N. Puppala, S. Sen, and M. Gordin, "Shared Memory Based Cooperative Coevolution," in *Proc. of the International Conference on Evolutionary Computation'98*, IEEE Press, 1998.
47. N. Arora and S. Sen, "Resolving Social Dilemmas Using Genetic Algorithms: Initial Results", in *Proc. of the Seventh International Conference on Genetic Algorithms* (pages 689-695), Lansing, MI, 1997.
48. T. Haynes and S. Sen, "Crossover Operators for Evolving a Team" in *Proceedings of Genetic Programming 1997: the Second Annual Conference* (pages 162–167), San Francisco, CA, 1997.
49. T. Haynes, S. Sen, N. Arora, and R. Nadella, "An automated meeting scheduling system that utilizes user preferences," in *Proc. of the First International Conference on AUTONOMOUS AGENTS (Agents '97)*, pages 308-315, ACM Press, New York, NY, 1997.
50. S. Sen, "Reciprocity: a foundational principle for promoting cooperative behavior among self-interested agents", in *Proc. of the Second International Conference on Multiagent Systems*, pages 322–329, AAAI Press, Menlo Park, CA, 1996.
51. S. Sen, S. Roychowdhury, and N. Arora, "Effects of local information on group behavior", in *Proc. of the Second International Conference on Multiagent Systems*, pages 315–321, AAAI Press, Menlo Park, CA, 1996.
52. T. Haynes and S. Sen, "Learning Cases to Resolve Conflicts and Improve Group Behavior," in *Proc. of the Second International Conference on Multiagent Systems*, page 439, AAAI Press, Menlo Park, CA, 1996. (Poster paper)
53. T. Haynes and S. Sen, "Satisfying User Preferences while Negotiating Meetings," in *Proc. of the Second International Conference on Multiagent Systems*, page 440, AAAI Press, Menlo Park, CA, 1996. (Poster paper)
54. M. Papa, C. Perez, and S. Sen, "Cooperative control of tank level with fuzzy controllers," in *Proc. of the Second International Conference on Multiagent Systems*, page 455, AAAI Press, Menlo Park, CA, 1996. (Poster paper)
55. S. Sen and L. Knight, "A genetic prototype learning system," in *Proc. of the International Joint Conference on Artificial Intelligence* (pages 725-731), Montreal, Canada, 1995.

56. M. Sekaran and S. Sen, "To help or not to help," in *Proc. of the Seventeenth Annual Conference of the Cognitive Science Society* (pages 736-741), Pittsburgh, Pennsylvania, July 1995.
57. L. Knight and S. Sen, "PLEASE: A Prototype Learning System using Genetic Algorithms" in *Proc. of the Sixth International Conference on Genetic Algorithms* (pages 429-435), Pittsburgh, Pennsylvania, July 1995.
58. T. Haynes, R. L. Wainwright, S. Sen, and D. A. Schoenefeld, "Strongly Typed Genetic Programming in Evolving Cooperation Strategies" in *Proc. of the Sixth International Conference on Genetic Algorithms* (pages 271-278), Pittsburgh, Pennsylvania, July 1995.
59. S. Sen and E.H. Durfee, "Unsupervised Surrogate Agents and Search Bias Change in Flexible Distributed Scheduling," in *Proc. of the First International Conference on Multiagent Systems* (pages 336-343), San Francisco, California, June, 1995.
60. S. Finnerty and S. Sen, "Simulated Annealing Based Classification," in the *Proc. of the IEEE Conference on Tools for Artificial Intelligence* (pages 824-827), New Orleans, Louisiana, November, 1994.
61. S. Sen and M. Sekaran, "Learning with friends and foes," in *Proc. Sixteenth Annual Conference of the Cognitive Science Society*, (pages 800-805) Atlanta, Georgia, August 1994.
62. S. Sen, M. Sekaran, and J. Hale, "Learning to coordinate without sharing information," in *Proc. National Conference on Artificial Intelligence*, (pages 426-431) Seattle, Washington July 1994.
63. A.L. Corcoran and S. Sen, "Using real-valued genetic algorithms to evolve rule sets for classification," in *Proc. IEEE Conference on Evolutionary Computation* (pages 120-124), Orlando, Florida, June 1994.
64. S. Sen, "A tale of two representations," in *Proc. of the Seventh International Conference on Industrial & Engineering Applications of Artificial Intelligence & Expert Systems* (pages 245-254) Austin, Texas, May 31-June 4, 1994.
65. S. Sen and E.H. Durfee, "The role of commitment in cooperative negotiation: An Extended Abstract," in *Proc. Second International Conference on Cooperative Information Systems* (pages 235-242) Toronto, Canada, May 17-20, 1994.
66. S. Sen, "Representational effects in a simple classifier system," in *Proc. 1994 ACM Symposium on Applied Computing* (pages 206-211), Phoenix, Arizona, March 1994.
67. S. Sen, "File placement using simulated annealing," in *Proc. 1994 ACM Symposium on Applied Computing* (pages 251-255), Phoenix, Arizona, March 1994.
68. S. Sen and D. Damouth, "Graph-theoretic approaches to problem decomposition in multi-agent systems", in *Proc. ACM Annual Computer Science Conference* (pages 82-89), Phoenix, Arizona, March 1994.

69. S. Sen and E.H. Durfee, "On the design of an adaptive meeting scheduler," in *Proc. The Tenth IEEE Conference on Artificial Intelligence for Applications*, San Antonio (pages 40-46), Texas, March 1994.
70. S. Sen, "Improving classification accuracy through performance history," in *Proc. 5th Intl Conf on Genetic Algorithms, Urbana, Illinois*, July 17-22, 1993.
71. S. Sen and E.H. Durfee, "Using temporal abstractions and cancellations for efficiency in automated meeting scheduling," in *Proc. 1st Intl Conf on Intelligent and Cooperative Information Systems* (pages 163-172), Rotterdam, Netherlands, May, 1993.
72. S. Sen, "A simulated annealing approach to the max cut problem," in the *Proc. of Applications of AI XI: Knowledge-Based Systems in Aerospace and Industry* (pp. 61-66), Orlando, Florida, April, 1993.
73. S. Sen, "Minimal cost set covering using probabilistic methods," in *Proc. ACM Symposium on Applied Computing* (pp. 157-164), Indianapolis, Indiana, February, 1993.
74. S. Sen and S. Paul. "Stochastic Methods in Distributed Data Allocation," in *Proc. of Indian Computing Congress* (pp. 47-54), Secunderabad, India, December, 1992.
75. S. Sen and J. Janakiraman. "Learning to construct pushdown automata for accepting deterministic context-free languages," in *Proc. of Applications of AI X: Knowledge Based Systems*, Orlando, Florida, April 1992.
76. S. Sen, J. Janakiraman, and S. Paul. "Genetic Utility Optimizer", in *Proc. of the Indian Computing Congress* (pages 31-38), Hyderabad, India, December 1991. Selected the best paper in the conference.
77. S. Sen. "Genetic Learning of Logic Functions," in *Proc. of Artificial Neural Networks in Engineering* (pages 83-88), St. Louis, Missouri, November 1991.
78. S. Sen and E.H. Durfee. "A Formal Study of Distributed Meeting Scheduling: Preliminary Results," in *Proc. Conf. on Organizational Computing Systems* (pages 55-68), Atlanta, Georgia, November 1991.
79. P. Bonelli, A. Parodi, S. Sen, and S. Wilson. "NEWBOOLE: A Fast GBML System," in *Proc. of the Seventh International Conference on Machine Learning* (pages 153-159), Austin, Texas, June 1990.
80. S. Sen, "Sequential Boolean Function Learning by Classifier System," in *Proc. of 1st International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems*, Tullahoma, Tennessee, June 1988.

Workshop & Symposium publications

1. S. Sen, S. Saha, S. Airiau, D. Banerjee, and T. Candale, "Sustainable Agent Communities," in the *Proceedings of the Third European Workshop on Multiagent Systems (EUMAS 2005)*, pages 3–19, 2005.

2. D. Banerjee and S. Sen, "Reaching Pareto Optimality in Prisoner's Dilemma Using Conditional Joint Action Learning," in the *Working Notes of the AAAI-05 Workshop on Multiagent Learning*, 2005.
3. A. McDonald and S. Sen, "The Success and Failure of Tag-Mediated Evolution of Cooperation," in the *Working Notes of the AAMAS-05 Workshop on Learning and Adaptation in MAS (LAMAS)*, 2005.
4. S. Airiau and S. Sen, "Learning Pareto-optimal solutions in 2x2 conflict games," in the *Working Notes of the AAMAS-05 Workshop on Learning and Adaptation in MAS (LAMAS)*, 2005.
5. T. Candale and S. Sen, "Fast convergence to satisfying distributions," in the *Working Notes of the AAMAS-05 Workshop on Challenges in the coordination of large scale multi-agent systems*, 2005.
6. A. McDonald and S. Sen, "Analyzing the Effects of Tags on Promoting Cooperation in Prisoner's Dilemma," in the *Working Notes of the 2004 AAAI Fall Symposium on Artificial Multiagent Learning* (pages 9–14).
7. S. Airiau, S. Saha and S. Sen, "Dynamics of Strategy Distribution in Iterated Games," in the *Working Notes of the 2004 AAAI Fall Symposium on Artificial Multiagent Learning* (pages 35–42).
8. A. Ghosh and S. Sen, "Learning TOMs: Towards Non-Myopic Equilibria," in the *Working Notes of the 2004 AAAI Fall Symposium on Artificial Multiagent Learning* (pages 66–72).
9. D. Banerjee, S. Saha and S. Sen, "Expertise Selection by Predicting Mutually Beneficial Partnerships" in the *Working Notes of the AAAI-2004 workshop on Forming and Maintaining Coalitions in Adaptive Multiagent Systems*, July, 2004.
10. T. Candale and S. Sen, "Choosing satisficing service providers by learning referrals," in the *Working Notes of the AAMAS-04 Workshop on Learning and Evolution in Multiagent Systems* (pages 6–11), 2004.
11. Stephane Airiau and Nilanjan Ganguly, Sandip Sen and Sabyasachi Saha, "Evolutionary tournament-based comparison of learning and non-learning strategies for iterated games," in the *Working Notes of the AAMAS-04 Workshop on Learning and Evolution in Multiagent Systems* (pages 1–5), 2004.
12. S. Saha and S. Sen, "Predicting Agent Strategy Mix in Heterogeneous Populations" in the *Working Notes of the AAMAS-2004 workshop on Game Theoretic and Decision Theoretic Agents (GTDT-2004)*, July, 2004.
13. S. Saha and S. Sen, "Agent Based Framework for Content Based Image Retrieval" in the *Working Notes of the AAAI-04 Spring Symposium on Interaction between Humans and Autonomous Systems over Extended Operation*, March, 2004.
14. S. Airiau, S. Sen, D.H. Wolpert and K. Tumer, "Providing effective access to shared resources: a COIN approach", in the *Working Notes of The First International Workshop on Engineering Self-Organising Applications (ESOA 2003)*, 2003.

15. S. Airiau and S. Sen, "Tournament-based comparison of learning and non-learning strategies in iterated single-stage games," in the *Working Notes of the FIFTH WORKSHOP ON GAME THEORETIC AND DECISION THEORETIC AGENTS*, 2003.
16. A. Ghosh and S. Sen, "Learning TOMs: Convergence to non-myopic equilibria" in the *Working Notes of FIFTH WORKSHOP ON GAME THEORETIC AND DECISION THEORETIC AGENTS (Special Session on Evolutionary Game Theory)*.
17. S. Airiau, S. Sen, and G. Richard, "Strategic Bidding for Multiple Units in Simultaneous and Sequential Auctions," in the *Working Notes of AAAI-02 Workshop on "Multi-Agent Modeling and Simulation of Economic Systems"*, 2002.
18. S. Sen and N. Sajja, "Selecting Service Providers based on Reputation," in the *Working Notes of AAAI-02 Workshop on "Multi-Agent Modeling and Simulation of Economic Systems"*, 2002.
19. P.P. Kar, P.S. Dutta, and S. Sen, "Group Interactions Based on Agent Opinion," in the *Working Notes of AAAI-02 Workshop on "Autonomy, Delegation and Control: From Inter-Agent to Groups"*, 2002.
20. P.S. Dutta and S. Sen, "Emergence of Stable Coalitions via Negotiation of Task Exchanges," in the *Working Notes of AAAI-02 Workshop on "Coalition Formation in Dynamic Multiagent Environments"*, 2002.
21. S. Sen and P.P. Kar, "Sharing a Concept," in the *Working notes of the AAAI-02 Spring Symposium on Collaborative Learning Agents*, pages 55-60. (Symposium Notes available as AAAI Technical Report SS-02-02).
22. S. Sen and R. Mukherjee, "Negotiating Efficient Envy-Free Divisions," in the *Working notes of the AAAI-01 Fall Symposium on Negotiation Methods for Autonomous Cooperative Systems*, pages 149-154. (Symposium Notes available as AAAI Technical Report SS-02-02).
23. P.S. Dutta and S. Sen, "Emergence of Stable Coalitions via Negotiation of Task Exchanges," in the *Working notes of the AAAI-01 Fall Symposium on Negotiation Methods for Autonomous Cooperative Systems*, pages 155-160. (Symposium Notes available as AAAI Technical Report SS-02-02).
24. P.S. Dutta, S. Sen and R. Mukherjee, "Scheduling to be competitive in supply chains", in the Working Notes of the IJCAI 2001 workshop on "E-Business and the Intelligent Web", August 4 - 10, 2001 in Seattle, WA.
25. P.S. Dutta, S. Sen and J. Peng: "Applying Bayesian mixed-initiative agents in real-world reasoning", in the Working Notes of the IJCAI, 2001 workshop on "Autonomy, Delegation and Control: Interacting with Autonomous Agents", August 4 - 10, 2001 in Seattle, WA.
26. R. Mukherjee, S. Sen and P.S. Dutta: "Movies2go - A new approach to online movie recommendation ", in the Working Notes of the IJCAI 2001 workshop on "Intelligent Techniques for Web Personalisation", August 4 - 10, 2001 in Seattle, WA.

27. R. Mukherjee and S. Sen, "Towards a pareto-optimal solution in general-sum games", in the Working Notes of the Agents 2001 Workshop on "Learning Agents", May 28 - June 01, 2001 in Montreal, Canada.
28. S. Sen and P.S. Dutta, "Envy and spite-free divisions", in the Working Notes of the Autonomous Agents 2001 workshop on "Deception, Fraud and Trust in Agent societies", May 28 - June 01, 2001 in Montreal, Canada.
29. S. Sen, P.S. Dutta, R. Mukherjee, "Agents that represent Buyer's interest in E-commerce," in the Working Notes of the AAAI-2000 Workshop on Knowledge Based Electronic Markets.
30. R. Mukherjee, P.S. Dutta, S. Sen, "Analysis of domain-specific ontologies for agent-oriented information retrieval," in the Working Notes of the AAAI-2000 Workshop on Agent-Oriented Information Systems.
31. B. Banerjee and S. Sen, "Selecting Partners", in the Working Notes of the 2nd Workshop on Decision Theoretic and Game Theoretic Agents (held in association with ICMAS-2000), pages 1-12, 2000.
32. B. Banerjee, S. Debnath, and S. Sen, "Combining Multiple Perspectives," in the Working Notes of AGENTS-00/ECML-00 Workshop on Learning Agents, pages 27-32, 2000.
33. B. Banerjee, S. Sen, and J. Peng, "Evaluating Competitive Learners," in the Working Notes of AGENTS-00/ECML-00 Workshop on Learning Agents, pages 48-52, 2000.
34. B. Banerjee, R. Mukherjee, and S. Sen, "Learning Mutual Trust," in the Working Notes of AGENTS-00 Workshop on Deception, Fraud and Trust in Agent Societies, pages 9-14, 2000.
35. A. Biswas, S. Debnath and S. Sen, "Believing Others: Pros and Cons," in the Working Notes of the IJCAI-99 workshop on Agents that Learn About, From and With Other Agents, 1999.
36. M. Mundhe and S. Sen, "Evaluating Concurrent Reinforcement Learners," in the Working Notes of the IJCAI-99 workshop on Agents that Learn About, From and With Other Agents, 1999.
37. S. Sen and A. Biswas, "More than Envy-Free", in the Working Notes of the AAAI-99 Workshop on Negotiation: Settling Conflicts and Identifying Opportunities (also available as AAAI Technical Report WS-99-12), pages 44-49, 1999.
38. B. Banerjee, S. Debnath and S. Sen, "Using Bayesian Network to aid Negotiations among Agents", in the Working Notes of the AAAI-99 Workshop on Negotiation: Settling Conflicts and Identifying Opportunities (also available as AAAI Technical Report WS-99-12), pages 44-49, 1999.
39. A. Biswas, M. Mundhe, S. Debnath, and S. Sen, "A Bayesian Network based approach for modeling agent relationships," in the Working Notes of the AGENTS99 workshop on Deception Fraud and Trust in Agent Societies, pages 17-19, 1999.

40. A. Biswas, S. Sen and S. Debnath, "Limiting Deception in Social Agent-Groups," in the Working Notes of the AGENTS99 workshop on Deception Fraud and Trust in Agent Societies, pages 21–28, 1999.
41. M. Mundhe and S. Sen, "Use of voting schemes to tradeoff user preferences," in the Working Notes of the AAAI-98 workshop on *Recommender Systems*.
42. M. Gordin and S. Sen, "Using Observation to Select Complementary Goals," in the *Working notes of the AAAI-98 Spring Symposium on Satisficing Models*, pages 31-38. (Symposium Notes available as AAAI Technical Report SS-98-05).
43. A. Biswas and S. Sen, "Reciprocating with Learned Models," in the *Working notes of the AAAI-98 Spring Symposium on Satisficing Models*, pages 15-18. (Symposium Notes available as AAAI Technical Report SS-98-05).
44. M. Gordin, S. Sen, and N. Puppala, "Evolving Cooperative Groups: Preliminary Results," in the *Working Notes of the AAAI-97 Workshop on Multiagent Learning*, pages 31-35. (Workshop Notes available as AAAI Technical Report WS-97-03).
45. S. Sen and N. Arora, "Learning to take risks," in the *Working Notes of AAAI-97 workshop on Multiagent Learning*, pages 59-64. (Workshop Notes available as AAAI Technical Report WS-97-03).
46. S. Sen, "Modeling human categorization by a simple classifier system," in *Proc. of the 1st Online Workshop on Soft Computing*, held between Aug 19-30, 1996.
47. R. Nadella, N. Arora, and S. Sen, "A testbed for studying coordination of autonomous agents: a Java based robotic soccer simulator," in *Proc. of the 10th Annual Mid-America Symposium on Emerging Computer Technologies'96*, Norman, Oklahoma, 1996.
48. T. Haynes and S. Sen, "Adaptation using cases in cooperative groups," in the *Working Notes of the AAAI-96 Workshop on Intelligent Adaptive Agents*, Portland, OR, August 1996.
49. T. Haynes and S. Sen, "Learning Cases to resolve conflicts and improve group behavior," in the *Working Notes of the AAAI-96 Workshop on Agent Modeling*, Portland, OR, August 1996.
50. N. Arora and S. Sen, "Resolving Social Dilemmas Using Genetic Algorithms", in the *Working notes of the AAAI Spring Symposium on Adaptation, Coevolution, and Learning in Multiagent Systems*, Stanford, CA, March 25-27, 1996.
51. T. Haynes, K. Lau, and S. Sen, "Learning Cases to Compliment Rules for Conflict Resolution in Multiagent Systems", in the *Working notes of the AAAI Spring Symposium on Adaptation, Coevolution, and Learning in Multiagent Systems*, Stanford, CA, March 25-27, 1996.
52. T. Haynes, S. Sen, D. Schoenefeld, and R. Wainwright, "Evolving a Team", in *Working notes of the AAAI Fall Symposium on Genetic Programming*, Cambridge, November, 1995.

53. R. Gamble and S. Sen, "Using Formal Specification to Resolve Conflicts between Contracting Agents," in *Proc. AAAI-94 Workshop on Conflict Management in Cooperative Problem Solving*, Seattle, Washington, August, 1994.
54. S. Sen and E.H. Durfee, "Adaptive Surrogate Agents," in *Proc. 13th International Distributed AI workshop*, Lake Quinault Lodge, Washington, July 28-30, 1994.
55. S. Sen, "Contract-based distributed meeting scheduling," in *Working Notes of CAIA-94 Workshop on Coordinated Design and Planning*, San Antonio, Texas, March 1994.
56. S. Sen and E.H. Durfee, "Avoiding and resolving conflicts among cooperative scheduling agents," in *Proc. IJCAI Workshop on Computational Models of Conflict Management in Cooperative Problem Solving*, Chambery, France, August 30, 1993.
57. S. Sen and E.H. Durfee, "Dependent Subtask Processing in a Contract-Net for Manufacturing" in *Proc. AAAI Workshop on Intelligent Manufacturing Technology*, Washington D.C. July, 1993.
58. S. Sen and E.H. Durfee, "The Effects of Search Bias on Flexibility in Distributed Scheduling," in *Proc. 12th Intl Workshop on Distributed Artificial Intelligence*, Hidden Valley Resort, Hidden Valley, Pennsylvania, May 19-21, 1993.
59. S. Sen and E.H. Durfee. "Automated Meeting Scheduling among Heterogeneous Agents," in *Working Papers of the AAAI-92 Workshop on Cooperation among Heterogeneous Intelligent Agents* (pages 116-120), San Jose, California, July 1992.
60. S. Sen. "Noise sensitivity in a simple classifier system," in *Proc. 5th Conf. on Neural Networks & Parallel Distributed Processing*, Ft Wayne, Indiana, April 1992.
61. S. Sen and E.H. Durfee. "A Formal Analysis of Communication and Commitment in Distributed Meeting Scheduling," in *Proc. Eleventh Intl. Distributed Artificial Intelligence Workshop* (pages 333-344), Glen Arbor, Michigan, February 1992.

Thesis & Dissertation:

1. S. Sen. "Predicting Tradeoffs in Contract-Based Distributed Scheduling," PhD Dissertation, Department of Computer Science & Engineering, University of Michigan, Ann Arbor, Michigan, December 1993.
2. S. Sen. "Distributed Parallel Genetic Algorithms (DIPGAL)", Master's Thesis, Dept. of Electrical Engg., Univ. of Alabama, Tuscaloosa, Alabama, Dec, 1988.

PROFESSIONAL ACTIVITIES

Proposal Reviews

Reviewed proposals in panels for the following National Science Foundation directorate: Information Technology & Organizations (ITO), Knowledge Models & Cognitive Systems (KMCS), Computation & Social Systems (CSS), Digital Society & Technology (DST).

Conference Program Chair

- Program Co-Chair of the Fifth International Conference on Autonomous Agents (AGENTS-2001) held in Montreal, Canada between May 28 – June 1, 2001.
- Chair of the Special Program Committee on ALife, Artificial Agents, and Adaptive Behavior (“AAA”) of the 2001 Genetic and Evolutionary Computation Conference (GECCO) to be held in San Francisco, CA between July 17-21, 2001.

Organizer of international workshops/symposia

- Co-Chair, AAMAS-06 workshop on “Adaptation and Learning in Autonomous Agents and Multiagent Systems” to be held on May 8, 2006 in Hakodate, Japan.
- Chair, AAMAS-04 workshop on ”Learning and Evolution in Agent Based Systems” held on July 20, 2004 in New York, NY.
- Co-Chair, Autonomous Agents’2000/ECML’2000 workshop on “Learning Agents” held on June 3, 2000 in Barcelona, Spain.
- Co-Chair, IJCAI-99 Workshop on “Agents Learning About, From and With Other Agents” held on August 2, 1999 in Stockholm, Sweden.
- Chair, AAI-99 Workshop on “Negotiation: Settling conflicts and identifying opportunities” held on July 19, 1999.
- Chair, AAI-98 Spring Symposium on *Satisficing Models* held between March 23-25, 1998 in Stanford University, California.
- Chair, AAI-97 workshop on *Multiagent Learning* held on July 28, 1997 in Providence, Rhode Island.
- Chair, AAI-96 Spring Symposium on *Adaptation, Co-evolution and Learning in Multiagent Systems* held between March 25-27, 1996 in Stanford University, California.
- Chair, IJCAI-95 workshop on *Adaptation and Learning in Multiagent Systems* held on August 21, 1995 in Montreal.

Editing journal issues

Guest editor, International Journal of Human-Computer Studies, special issue on Learning and Evolution in Multiagent Systems.

Journal Editorial boards

- Member, Editorial Board, Journal of Autonomous Agents and Multi-agent Systems (JAAMAS).
- Member, Editorial Board, International Journal of Computational Intelligence & Organizations.
- Member, Editorial Board, Knowledge Engineering Review.
- Member, Editorial Board, Cognitive Systems Research.

Tutorial presentations

1. “Learning and Evolution in Agent Based Systems” to be presented in association with the Fifth International Conference on Autonomous Agent and Multiagent Systems to be held in Hakodate, Japan on May 9, 2006.
2. “Genetic Algorithms for Learning Agents and Adaptive Societies” presented in association with FIFTH INTERNATIONAL CONFERENCE ON ADVANCES IN PATTERN RECOGNITION (ICAPR-2003) held on December 10, 2003 in Kolkata, India.
3. “Intelligent Agents” presented in association with 1st Indian International Conference on Artificial Intelligence (IICAI-03) held on December 20, 2003 in Hyderabad, India.
4. “Learning and Evolution in Agent Based Systems” presented in association with the Autonomous Agent and Multiagent Systems conference held in New York, NY on July 19, 2004.
5. “Intelligent Agents,” presented on December 18, 2002 in association with the Knowledge-Based Computer System’02 conference held in Mumbai, India.
6. “Learning and Evolution in Multiagent Systems,” presented on July 9, 2000 in association with the Fourth International Conference on Multiagent Systems held in Boston, MA.
7. “Learning Agents,” presented on June 4, 2000 in association with the Fourth International Conference on Autonomous Agents (Agents’00) held in Barcelona, Spain.
8. “Learning and Evolution in Multiagent Systems,” presented on July 3, 1998 in association with the Third International Conference on Multiagent Systems held in Paris, France.
9. “Learning Agents,” presented on February 5, 1997 in association with the First International Conference on Autonomous Agents (Agents’97) held in Marina del Ray, CA. Co-presented with Claude Touzet.
10. “Learning in Multiagent Systems,” presented on December 10, 1996 in association with the Second International Conference on Multiagent Systems held in Nara, Japan.
11. “Distributed Artificial Intelligence: Directions & Applications,” in the 7th Oklahoma Symposium on Artificial Intelligence, November, 1993.

Continuing Education/Short Course Offerings

- “Multiagent Learning,” presented in the PRIMA 2004 Agent School On Agents and Multiagent System held in Auckland, NZ on August 8, 2004.
- “Learning Agents,” presented in the Melbourne Agent Systems School held in Melbourne, Australia between July 8–12, 2003.
- “Learning Agents,” presented in the Fourth European Agent Systems Summer School held in Bologna, Italy between August 8–12, 2002.
- “Learning Agents,” presented in the First American Agent Systems School held in Marina del Ray, California between January 6–11, 2002.

- “Learning Agents,” presented in the Second European Agent Systems Summer School held in Saarbrücken, Germany between August 14–18, 2000.
- “Learning and Evolution in Multiagent Systems,” presented in the First European Agent Systems Summer School held in Utrecht, Netherlands between July 26–31, 1999.
- “Distributed AI” (offered in Universidad Nacional de San Luis, San Luis, Argentina between July 22-August 2, 1996, in response to an invitation from the Education Ministry of Argentina).
- “Genetic Algorithms: An Overview,” presented in the Department of Computer Science, University of Windsor, Canada (July, 1995).

Invited talk

- “Sustainable Agent Communities,” presented at the Third European Workshop on Multiagent Systems (EUMAS 2005) held in Brussels, Belgium on December 8, 2005.
- Keynote talk on “Mechanisms for open, adaptive agent communities,” presented at the Pacific Rim International Workshop on Multiagent Systems (PRIMA’04), held in Auckland, NZ on August 9, 2004.
- “Evolution and Stability of Collaboration Among Rational Agents,” presented at the 7th international workshop on cooperative information agents (CIA 2003) on August 28, 2003 in Helsinki, Finland.
- “Intelligent Agent Technologies for User Support and Peer-to-Peer Computing” presented at the Third International Conference on Intelligent Systems Design and Applications, on August 13, 2003.
- “Intelligent Agent Systems: Theories & Application,” presented at the Indian Institute of Management, Joka, India, on June 9, 2003.
- “Designing Agent Behaviors: Theory & Applications,” presented at National Tsing Hua University, Hsin-Chu, Taiwan, on December 21, 2001.
- “Learning With and About Other Agents,” presented on October 27, 2001 at the “Workshop on Multi-Agent Computation in Natural and Artificial Economies” held at Brookings Institution, Washington DC.
- “Designing Intelligent Agents: Theory & Practice” presented at the Electrical & Computer Engineering Department of the University of Iowa on September 4, 2001.
- “Designing Intelligent Agents: Theory & Practice” presented at the Computer Science Department of the University of Oklahoma on September 8, 2000.
- “Adaptive Choice of Information Sources,” presented on July 6, 1998 at the 2nd International Cooperative Intelligent Agents Workshop held in conjunction with the Third International Conferences on Multiagent Systems, Paris, France.

Serving on dissertation committees in other universities

Served on the dissertation committee of MV Nagendraprasad (supervisor: Professor Victor S. Lesser, Computer Science Department, University of Massachusetts, Amherst), 1996–1997.

Reviewer duties

- Reviewed papers for the following journals:
 - Artificial Intelligence Journal
 - Journal of Artificial Intelligence Research
 - Autonomous Agents and Multi-Agent Systems
 - Journal of Machine Learning Research
 - IEEE Transactions on Pattern Analysis and Machine Intelligence
 - IEEE Transactions on Systems, Man, and Cybernetics
 - IEEE Transactions on Knowledge and Data Engineering
 - IEEE Transactions on Neural Networks
 - IEEE Intelligent Systems
 - IEEE Transactions on Evolutionary Computation
 - ACM Transactions on Office Information Systems (TOIS)
 - Evolutionary Computation
 - Journal of Experimental & Theoretical Artificial Intelligence
 - Journal of Intelligent & Cooperative Information Systems
 - Group Decision and Negotiation Support Systems
 - INFORMS
 - Games and Economic Behavior
 - International Journal of Computational Intelligence and Organizations.
- Senior Program committee member of the following conferences:
 - First, Second, and Fourth International Conferences on Autonomous Agents and Multi-agent Systems
- Student Travel Scholarships Chair, Fourth International Conference on Multiagent Systems, Boston, MA, 2000.
- Doctoral Mentoring Chair, Second International Conference on Autonomous Agents and Multiagent Systems, Melbourne, Australia, 2003.
- Finance Chair, Fourth International Conference on Autonomous Agents and Multiagent Systems, Utrecht, Netherlands, 2005.
- Publicity Co-Chair, Seventh International Workshop on Distributed Computing (IWDC-2005)

- Student Scholarships Co-Chair, Fifth International Conference on Autonomous Agents and Multiagent Systems, Hakodate, Japan, 2006.
- Program committee member of the following conferences and workshops:
 - Thirteenth, Fifteenth, and Twenty-first National Conference on Artificial Intelligence
 - Fifteenth, Sixteenth, Seventeenth, Eighteenth, and Nineteenth International Joint Conference on Artificial Intelligence
 - Fifth International Conference on Autonomous Agents and Multiagent Systems
 - Third and Fourth International Conference on Multiagent Systems
 - Second, Third, and Fourth International Conference on Autonomous Agents
 - Seventeenth International Conference on Machine Learning
 - Thirteenth International Workshop on Distributed AI
 - Robocup 2002, 2003, 2004, 2005
 - 2003 IEEE/WIC International Conference on Intelligent Agent Technology
 - Sixth and Seventh International Conference on Genetic Algorithms
 - Genetic and Evolutionary Computation Conference (GECCO), 1999, 2000, 2001, 2002, 2003, 2004, 2006.
 - Parallel Problem Solving from Nature (PPSN), 2000, 2002, 2004.
 - Congress on Evolutionary Computation'99
 - Twelfth International Conference on Industrial and Engineering Application of Artificial Intelligence and Expert Systems 1999 (IEA/AIE-99)
 - Seventh International Conference on Tools with Artificial Intelligence
 - Third, Fourth, Fifth, and Sixth International Workshop on Cooperative Information Systems
 - Second, Third, Fourth, and Fifth International Workshops in Cooperative Information Agents
 - Fifth (2003) and Sixth (2004) International Workshop on Distributed Computing (IWDC)
 - AAAI-02 Spring Symposium on Collaborative Learning Agents
 - Pacific Rim MultiAgent workshop (PRIMA2000)
 - Ninth and Tenth Mid-America Symposium on Applied Computer Technology
 - AAAI-05 Workshop on Multiagent Learning
- Reviewed papers for a number of other national and international conferences.

Presentations in meetings

Presented approximately 75 papers in workshops and conferences.

Masters and Doctoral Committees at The University of Tulsa

- As chair:

1. Dipyaman Banerjee, "Convergence to Pareto Optimality in General Sum Games via Learning Opponent Preferences." (MS, 2005)
 2. Teddy Candale, "Hill-Climbing Approach to Bidding for Bundles in Simultaneous Auctions." (MS, 2005)
 3. Arjita Ghosh, "Agent-Based Distributed Intrusion Alert System." (MS, 2004)
 4. Parijat Prosun Kar, "An Agent-To-Agent Framework for Knowledge Transfer," (MS, 2003)
 5. Neelima Sajja, "Robustness of reputation-based trust." (MS, 2002)
 6. Partha Sarathi Dutta, "Forming Stable Reciprocal Groups Through Learning and Adaptation." (MS, 2001)
 7. Rajatish Mukherjee, "Bidding for Bundles in Asynchronous Auctions." (MS, 2001)
 8. Bikramjit Banerjee, "Fast Convergence of Concurrent Reinforcement Learners." (MS, 2000)
 9. Manisha Mundhe, "Escaping the Curse on Concurrent Learners." (MS, 1999)
 10. Karina Hernandez, "Informed Consumers in E-Commerce: An Agent Based Approach." (MS, 1999)
 11. Anish Biswas, "Making self-interested agents cooperate: an evaluation of probabilistic reciprocity." (MS, 1999)
 12. Sumit Ranjan Ghosh, "A Distributed Agent Based Framework for Information Retrieval and Dissemination." (MS, 1998)
 13. Thomas Haynes, "Collective Adaptation: The Sharing of Building Blocks." (PhD, 1998)
 14. Maria Gordin, "Observation-Based Coordination in Multiagent Cooperative Environments." (MS, 1997)
 15. Narendra Puppala, "Shared Memory Based Cooperative Co-evolution." (MS, 1997)
 16. Rajani Nadella, "Cooperating to Compete." (MS, 1997)
 17. Neeraj Arora, "Learning to Beat An Opponent." (MS, 1997)
 18. Mahendra Sekaran, "Reinforcement learning based agent coordination." (MS, 1995)
- As member:
 1. Sudarshan Anand, "Modeling an All Optical Regenerator based on Four-Wave Mixing in Semiconductor Optical Amplifiers." (MS, EE, 2004)
 2. Gerdur Jónsdóttir, "Notating Problematic Architecture Interactions." (MS, 2002)
 3. Shounak Roychowdhury, "Encoding Fuzzy Rules for Knowledge Discovery." (MS, 1997)
 4. Ramya Sitaraman, "Integration of Software Systems at an Abstract Architectural level." (MS, 1997)
 5. Kelly D. Crawford, "The role of recombination in genetic algorithms for fixed-length subset problems." (PhD, 1996)
 6. Ranadeep Mukherjee, "Hybrid expert systems development and analysis." (MS, 1995)

- Currently supervising two PhD and three MS students.

The University of Tulsa Service Activities

- Graduate Council, 2003-present.
- Faculty Senate, 1st Alternate, 2003-2004.
- Faculty Senate, 3rd Alternate, 2002-2003.
- Member, CS Review Committee, 2005-present.
- Member, ENS Computing Committee, 2001-present.
- Member, CS Faculty Recruitment Committee, 2000.
- Faculty Advisor: Math & Computer Science Graduate Student Association (1995-present)
- Faculty Advisor: Math & Computer Science ACM Student Chapter (1997-present)
- Faculty Advisor: Indian Students Association (1995-present)
- Member: Math & Computer Sciences Department Computer Policy Committee (1995-present)
- Member: Selection committee for College of Engineering & Natural Sciences Interns to Los Alamos National Labs, 1998-1999.
- Organized weekly social get-togethers for the students, faculty, and staff of the Mathematical & Computer Sciences Department (Fall 1995)
- Curriculum development: developed four new graduate level courses in the Computer Science curriculum (CS 7313: Advanced Artificial Intelligence, CS 7323: Distributed Artificial Intelligence, CS 7333: Machine Learning, CS 7863: Agent Based Systems). Also completely revamped the course material for Advanced Topics in Database Systems (CS 7513) and Analysis of Algorithms (CS 7353) courses.
- Undergraduate courses taught: Introduction to Artificial Intelligence, Introduction to Database Systems, Discrete Mathematics, Fundamentals of Computer Algorithms & Applications.
- Mentor for students in the Tulsa Undergraduate Research Challenge (TURC) program. Currently working with Austin McDonald, Matt Matlock, and Austin Roberts. Former students include Zachary Ingraham, Jason Grlicky, Benjamin Stover and Mary McGlohon.
- Supervised the research of the recipient of the following OKAMP-SMET summer interns: Rashid Kiwanuka (Summer, 1996), Daniel Wilson (Summer, 1997, 1998).

Other Service Activities

- Judge, Tulsa Regional Science and Engineering Fair, February 25th, 2006.
- Committee Member, Bengali Association of Greater Tulsa, 1993–present.