

Curriculum Vitæ
GOPAL GUPTA
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AREAS OF INTEREST

- **Programming Languages:** Implementation and Semantics, Logic Programming, Constraint Programming, Applications, Compile-time Analysis.
- **Software Engineering:** Software Verification, Domain Specific Languages, Executable Specifications, Agent/Web/Service based Computing, Interoperability.
- **Parallel and Distributed Processing:** High Performance AI and Logic Programming Systems, Automatic Parallelization and Parallelizing Compilers, Parallel Architectures, Applications.
- **Assistive Technology:** Aural Navigation of the Web, Making Math Accessible to Visually Impaired

EDUCATION

Ph.D. Computer Science, 1991, University of North Carolina at Chapel Hill. Advisor: Dr. Bharat Jayaraman. My thesis was published by Kluwer Academic Publishers.

M.S. Computer Science, 1987, University of North Carolina at Chapel Hill.

B.S. Computer Science, May 1985, Indian Institute of Technology, Kanpur, India.

PROFESSIONAL EXPERIENCE

9/09 – : Department Head, Department of Computer Science, UT Dallas.

9/04 – 8/09: Associate Department Head, Department of Computer Science, UT Dallas.

9/02 – present: Professor, Department of Computer Science, UT Dallas.

9/00 – 8/02: Associate Professor, Department of Computer Science, UT Dallas.

7/97 – 8/00: Associate Professor, Department of Computer Science, NMSU. Director, Laboratory for Logic, Databases, and Advanced Programming.

1/92 – 6/97: Assistant Professor, Department of Computer Science, NMSU. Co-founder and Director, Laboratory for Logic, Databases, and Advanced Programming.

11/89 – 12/91: Member of Research Staff, Parallel Logic Programming Systems Group, Advanced Computing Research Center, University of Bristol, UK, Group Leader: David H. D. Warren.

8/85 – 10/89: Research/Teaching Assistant, UNC Chapel Hill.

5/85 – 7/85: Programmer, Uttar Pradesh Development System Corporation (India).

AWARDS AND HONORS

- Computer science outstanding teacher of the year, University of Texas at Dallas, 2008.
- Jonsson School outstanding service award, University of Texas at Dallas, 2004 (included \$25,000 internal research grant).
- Best paper award. European Conferences on Web Services 2005.
- Most practical paper award. 6th International Conference on Practical Aspects of Declarative Languages. 2004. With H-F Guo.
- Best paper. Software Verification and Validation Workshop. 2003. With Q. Wang.
- Appointed as area editor of the Journal, Theory and Practice of Logic Programming.
- Member of the executive committee, Association for Logic Programming. Association for Logic Programming has about 500-600 members worldwide. It sponsors international logic programming conferences and publishes the Journal of Logic Programming.
- Member of the executive committee, European Association for Programming Languages and Systems.
- Invited to join the Evolutionary Informatics group (funded by NESCent, an NSF Center) for my work on developing language processors for the NEXUS bioinformatics format. 2006.
- Junior Faculty Enhancement Award in Computer Sciences, Oak Ridge Associated Universities, 1992 (10 awards out of 128 competitors).
- Graduate School Fellowship, University of North Carolina at Chapel Hill, 1985-86.
- Recipient of the “National Talent Search Scholarship” from the Government of India, 1981-1985 (awarded to approximately 150 students every year nationwide).
- Graduated with honors and 14th position among approximately 500,000 students in state-wide High School (12th grade) examination in India.
- 16th rank nationwide among approximately 100,000 examinees in the entrance examination of the Indian Institutes of Technology (IITs).

AWARDS TO MY STUDENTS

- NSF CAREER Award, 1999, Enrico Pontelli (Ph.D. 1997).
- Nebraska NSF Epscor Research Initiation Award, 2002, Hai-Feng Guo (Ph.D. 2000).
- Best Student Paper Award, International Conference on Logic Programming, 2005. Ajay Mallya (Ph.D. 2006).
- UTD Jonsson School Best Dissertation Award, Runner Up, 2006-2007. Luke Simon (Ph.D. 2006).
- Various UTD Jonsson School Research Excellence Awards in Graduate Student Research Competitions: R. Venkitaraman (MS 2005), R. Reguramalingam (MS 2005), S. Sunder Raman (MS 2005), Aanchal Jain (MS 2006), S. Kona (Ph.D. 2007).

SELECTED TEACHING RELATED ACTIVITIES

1. Co-PI in a large NSF grant at New Mexico State University to redesign the Freshmen programming curriculum. 1992-1996.
2. Co-PI in RIMI grants from NSF to increase number of minority Ph.D.s (several Hispanic graduate students recruited and graduated). 1993-1997.
3. Co-PI in a Research Infrastructure grant from NSF that included a summer camp for Native Americans at New Mexico State University. Started in 1998, these summer camps continue even today.
4. Program Head, BS Computer Science Program and BS Software Engg Programs for ABET and SACS accreditation.
5. Co-PI in NSF CSEMS grant for scholarship to Undergraduate CS students. 2002-2006.
6. PI/Co-PI in three Dept. of Education GAANN awards (two awards were at New Mexico State University which produced a number of Ph.D.s including two women [including one Hispanic female]).
7. Organizer, two summer schools in computational logic to increase number of students interested in doing research in logic programming.
8. Chair of the Information Assurance Certificate programs at UTD's CyberSecurity and Emergency Preparedness Institute. 2005 onwards.
9. Co-PI in NSF GK-12 grant to engage middle school students in computer science. 2008-2013.
10. Significant work in making Mathematics and Web accessible to blind students/individuals.

CURRENT GRANTS

1. PI, "A Domain-specific Language for Supply Chain Management," \$54,000. **Modria, Inc.** through **Texas Emerging Technology Fund**. 2008-2009. Co-PI: I-Ling Yen, Farokh Bastani.
2. Co-PI, "CHAMPS: CHallenging Algorithmics and Mathematics in Problem Solving for middle-school students." **NSF**. \$2,726,035, 2008-13. PI: Cobb, Other Co-PIs: Zhang, Huynh, Ntafos, Kim, Andreescu, Butts.
3. PI, "Training Students for Research and Teaching Careers in Computer Science and Software Engineering," **Dept. Of Education**. \$507,000, 2006-09. Co-PI: Zhang, Huynh, Ntafos, Kim, Mili. \$500,000 matching funds from Texas Enterprise Funds.
4. Co-PI. Web-based Emergency Response Management Technology. **US Environmental Protection Agency** and **US Dept. of Homeland Security**. \$4,800,000, 2000-09. PI: D. Harris.
5. Co-PI. Training Software Engineers for the High-Tech Workforce. PI: K. Zhang. Co-PIs: S. Kim, D. T. Huynh, S. Ntafos, S. Bowen. **NSF**. \$385,000. 2004-2008. Additional matching funds from UT Dallas: \$120,000.

6. Consultant, "Interdisciplinary research in bioinformatics." Award to New Mexico State University from **NSF**. 2004-2009.

PAST RESEARCH GRANTS HELD

1. PI. Buffer Attack-proofing Software Binaries. **AT&T Corp.** \$16,667 with \$16,667 matching funds from the State of Texas Emmit Project Funds. (PI receiving grant is E. Douglas Harris). 2005-2006.
2. Co-PI, "Networking Security Research," **Department of Defense**. \$75,000. PI: K. Sarac.
3. Co-PI, "Computer Security Research," **Department of Defense**. \$40,000. PI: M. Kantarcioglu.
4. PI. Development of a Universal Services Description Language (USDL). **Metalect Corp.** \$20,000 with \$20,000 matching funds from the State of Texas Emmit Project Funds. 2005-2006.
5. Co-PI. The Development of a Global Translation Appliance with Applications to Assistive Technologies. PI: A. Karshmer, Co-PIs: K. Miesenberger (Linz), E. Pontelli (NMSU), H-F. Guo (SUNY-SB). **Dept. of Education**. \$417,000. 2001-2006.
6. PI. Resources for Research in Scalable Parallel Computing and Networking Simulation. **US National Science Foundation**. (including 33% matching funds from UTD) \$93,000, Co-PIs: R. Prakash, O. Daescu. 2001-2006.
7. PI, "Horn Logic Denotations and their Applications" **National Science Foundation (NSF)** (International Division), \$27,000, 1999-05. (Collaboration with Neil Jones (Denmark) and Michael Leuschel (England)).
8. Co-PI, "Training Students for Interdisciplinary Research and Teaching Careers in Computer Science and Traditional Sciences," **DOE**. \$306,000, 2000-03. PI: A. Karshmer. Co-PI: D. Ranjan.
9. Co-PI. Translator Filter Technology for Bioinformatics Software Tools. **ARO sub-contract from Physical Science Lab, NMSU**. \$55,000, 2000-01. PI: B. Milligan (NMSU Biology). Co-PI: D. Ranjan, E. Pontelli
10. Co-PI, "Complexity Study of Dynamic Data-structures in Advanced Programming Language Implementation," **National Science Foundation (NSF)** (CISE Theory div.), \$215,000, 2000-03. PI: D. Ranjan, Co-PI: E. Pontelli.
11. PI, "High-performance, Scalable Parallel Constraint Programming Systems," **National Science Foundation (NSF)** (Operating Systems and Compilers Directorate), \$140,000, 1999-02. Co-PI: Enrico Pontelli.
12. Co-PI, "Non-visual Browsing of the World Wide Web: Tables, Frames and Forms" **National Science Foundation (NSF)**, \$575,000, PI: Art Karshmer, Co-PI: Enrico Pontelli. 1999-2002.

13. Co-PI, "Mathematics Accessible to Visually Impaired Students" **National Science Foundation (NSF)**, \$581,000, PI: Art Karshmer, Co-PI: Sandy Geiger. 1998-2001.
14. Project Co-director, "Irregular and Dynamic Parallelism in Symbolic and Scientific Computing," \$1,500,000. (11 other Co-PIs). **National Science Foundation (NSF)** Infrastructure Grant (MII).
15. PI, "Workshop for NSF PIs," **National Science Foundation (NSF)** \$84,000, 1999-00.
16. Co-PI, "Laboratory for Logic and Databases," **National Science Foundation (NSF)** (Human Resource Development Directorate), \$152,200, 1997-2000, other PI: H. Hernandez.
17. PI, "Parallel and Distributed Constraint Programming Systems on Multiprocessor PCs: Implementations and Applications," **National Science Foundation (NSF)**, \$37,000, 1998-1999, Co-PIs: E. Pontelli, J. Wiebe, D. Ranjan. (Research Instrumentation).
18. Co-PI, "Training Students for Research and Teaching Careers in Computer Science," **DOE**. \$367,000, 1997-00. PI: A. Karshmer. Co-PI: D. Ranjan.
19. Co-PI, "An Efficient Concurrent Constraint Framework for Symbolic and Internet/WWW Computing," \$18,000. **Fullbright Foundation**. 1998-99. Co-PI: E. Pontelli.
20. PI, "Summer School in Constraint Logic Programming," **National Science Foundation (NSF)** \$11,300, 1999-00.
21. PI, "NMSU Advising and Degree Audit System," **College of Arts and Sciences, NMSU** \$25,000, 1997-00.
22. PI, "Parallel Constraint Programming" **National Research Council**, \$2,750, 1999-00. (Collaboration with Hungary).
23. PI, "Implementation Techniques for Parallel Logic Programming: Incremental Development of Parallel Prolog Engines," **National Science Foundation (NSF)** (Programming Languages and Compilers Directorate), \$100,000, 1996-99.
24. PI, "Implementation and Analysis of Parallel Logic Programming and Concurrent Constraint Systems," \$27,000 (International Travel only). **National Science Foundation (NSF)** under National Science Foundation (NSF)-Esprit collaboration program. 1995-99.
25. Co-PI, "WEB-KLIC: A Concurrent Logic-based Unified Framework for Programming the Internet," **AITEC**, Japan, 1997-99, 3.0 Million Yen (approx \$27,000). Co-PI: Enrico Pontelli.
26. PI, "And-Or Parallel Execution of Logic Programs: A Stack Copying Approach", **National Science Foundation (NSF)** (Research Initiation Award), \$90,000, 6/1/92-5/31/96.
27. Co-PI, "Laboratory for Logic and Databases," **National Science Foundation (NSF)** (Human Resource Development Directorate), \$349,190, 1993-1996, other PI: Dr. Hector J. Hernandez.

28. PI, "Towards an Efficient Implementation of Extended Andorra Model," \$65,000, 10/1/92–9/30/94, **Sandia** National Labs.
29. PI, "Parallel AI and Logic Programming," **Oak Ridge** National Laboratories Junior Faculty Enhancement Program, \$5,000, 6/4/92–6/4/93 (10 funded out of 128 applications).
30. PI, "MAPLE: Multiprocessors And Parallel Logic Program Execution," **NATO** Collaborative Research Grant, Brussels, \$13,500, co-PIs: D.H.D. Warren (U. of Bristol, UK), M. Hermenegildo (U. of Madrid, Spain), V. S. Costa (U. of Oporto, Portugal); Travel Only, 1/1/93–12/31/97.

PROFESSIONAL ACTIVITIES

- **Conference Co-Chair:** 25th International Conference on Logic Programming. Pasadena, CA.
- **Executive Committee Member:** Association for Logic Programming, 2003-2007.
- **Executive Board Member:** European Association for Programming Languages and Systems. 2001-2006.
- **Area Editor:** Theory and Practice of Logic Programming (flagship journal of logic programming). Elsevier Science Publishers. 2005-present.
- **Editorial Board Member:** Theory and Practice of Logic Programming, Cambridge University Press. 2000-2005.
- **Editorial Board Member:** Journal of Logic Programming. Elsevier Science Publishers. 1998-2000.
- **Conference Coordinator:** Association for Logic Programming
- **Workshop Co-Chair:** Application of Logic Programming to Semantic Web and Web Services (ALPSWS), Porto, 2007.
- **FLoC Workshop Chair:** Federated Logic Conferences, 2006, Seattle (manage 41 workshops part of FLoC'06).
- **FLoC Workshop Co-chair,** Application of Logic Programming to Semantic Web and Web Services (ALPSWS), Seattle, 2006.
- **FLoC Workshop Co-chair,** Multivalued Logic Programming and Applications (MVLPA), Seattle, 2006.
- **Program Co-chair:** 21st International Conference on Logic Programming. 2005. Sitges, Spain.
- **Track chair:** Software Engineering Track. 2nd International Conference on Distributed Computing and Internet Technology. 2005. Bhubaneshwar, India.
- **Principal Organizer:** 2nd Compulog Americas/ALP Summer School in Computational Logic, Dallas, TX, June 14-17, 2004. <http://www.cs.utdallas.edu/~gupta/summerschool>. Co-organizers: E. Pontelli, H. Guo.
- **Invited Participant:** NSF workshops on "Broadening Participation in Computer Science Research" to launch an NSF Program by the same name.
- **General Chair:** 1st Int'l Workshop on Practical Aspects of Declarative Languages (San Antonio, TX, Proc. published by Springer Verlag as LNCS 1551

- **General Chair:** 2nd Int'l Symposium on Practical Aspects of Declarative Languages, Boston, 2000. Proceedings published by Springer Verlag, LNCS 1753.
- **General Chair:** 3rd Int'l Symposium on Practical Aspects of Declarative Languages, Las Vegas, 2001. Proceedings by Springer Verlag, LNCS 1990.
- **General Chair:** 4th Int'l Symposium on Practical Aspects of Declarative Languages, Portland, OR, 2002. Proceedings by Springer Verlag, LNCS 2257.
- **General Chair:** 5th Int'l Symposium on Practical Aspects of Declarative Languages, New Orleans, LA, 2003. Proceedings by Springer Verlag, LNCS 2562.
- **General Chair:** 6th Int'l Symposium on Practical Aspects of Declarative Languages, Dallas, TX, 2004. Proceedings by Springer Verlag, LNCS 3057.
- **General Chair:** 7th Int'l Symposium on Practical Aspects of Declarative Languages, Long Beach, CA, 2004. Proceedings by Springer Verlag, LNCS 3351.
- **Co-Organizer:** CL2000 Workshop on (Constraint) Logic Programming and Software Engineering, London, July 2000.
- **Organizer:** NSF PIs' Workshop for the Research Infrastructure (RI) Program and the Minority Institutions Infrastructure (MII) program. August 8-9, 1999 (Las Cruces, NM).
- **Founder and Organizer:** First COMPULOG AMERICAS Summer School on Constraint Logic Programming August 1-6, 1999 (Partially funded by the NSF). <http://www.cs.nmsu.edu/~complog/summerschool>.
- **Organizer:** Second COMPULOG AMERICAS Summer School on Constraint Logic Programming June, 2004. <http://www.utdallas.edu/~rsv031000/summerschool/>
- **Co-founder and Co-coordinator:** COMPULOG AMERICAS organization. COMPULOG AMERICAS is a network of research groups in logic and constraint programming. Visit <http://www.cs.nmsu.edu/~complog>
- **Conference Chair:** 16th International Conference on Logic Programming. Las Cruces, NM, Dec. 1999. Visit <http://www.cs.nmsu.edu/~complog/conferences/iclp99>
- **Program Chair:** First International Workshop on Practical Applications of Declarative Languages, 1999. San Antonio, TX. Proceedings published as Springer Verlag LNCS 1551.
- **Invited Speaker:**
 - Practical Aspects of Declarative Languages, 2009. Savannah, GA.
 - Rules Fest Conference (A practitioners' conf. on Rule-based Programming), Dallas, Oct. 2008.
 - European Science Project Workshop on Math Accessibility, Paris, France, Feb. 2008.
 - Keynote speaker, Doctoral Consortium, International Conference in Logic Programming 2006, Seattle, WA.
 - Workshop on Declarative Languages for Multicore Architectures, Jan 15,
 - Workshop on Declarative Languages for Multicore Architectures, Jan 15, 2006. Charleston, SC.
 - Workshop on Logical Spreadsheets, Sep 24, 2005. Stanford University, Palo Alto, CA.

- International Conference on Information Technology (CIT), Hyderabad, Dec. 2004.
- Workshop on Strategic Directions for Logic Programming, Apr 1998 (Shakertown, KY),
- 1997 Joint Conference on Declarative Languages June 1997 (Grado, Italy).
- **Invited Tutorial Speaker:**
 - ◊ Tutorial speaker on Coninductive Logic Programming and its Applications, International Conference on Logic Programming, Porto, Portugal, 2007.
 - ◊ Tutorial speaker on Constraint Logic Programming and its Applications on Recent Advances in Programming Languages, Preconference workshop with Foundations of Software Technology and Theoretical Computer Science, Dec. 2000, (New Delhi, India).
 - ◊ Tutorial on Parallel Logic Programming, International Conference on Logic Programming 1993 (Budapest, Hungary).
- **Program Committee Memberships:**
 - ◊ 25th International Conference on Logic Programming, 2009, Pasadena, Italy.
 - ◊ 24th International Conference on Logic Programming, 2008, Udine, Italy.
 - ◊ 10th International Conference on Computers Helping People with Special Needs (ICCHP), 2008,
 - ◊ 12th Colloquium for Information Systems Security Education, CISSE 2008.
 - ◊ 18th Int'l Symposium on Logic-Based Program Synthesis and Transformation (LOPSTR), 2008, Valencia, Spain.
 - ◊ 10th International Conference on Practical Applications of Declarative Languages 2007 (San Francisco, USA);
 - ◊ 11th Colloquium for Information Systems Security Education, CISSE 2007.
 - ◊ ICLP'07 Workshop on Applications of LP to Semantic Web and Web Services, 2007 (co-chair).
 - ◊ ICLP'07 Workshop on Logic Programming Environments, 2006.
 - ◊ FLoC'06 Workshop on Software Verification and Validation, Seattle, 2006.
 - ◊ FLoC'06 Colloquium on Implementation of Constraint and Logic Programming Systems (CICLOPS), Seattle, 2006.
 - ◊ FLoC'06 Workshop on Logic Programming Environment (WLPE), Seattle, 2006.
 - ◊ 9th International Conference on Practical Applications of Declarative Languages 2007 (Nice, France);
 - ◊ 10th Colloquium for Information Systems Security Education, CISSE 2006 (Baltimore, MD);
 - ◊ 2nd Int'l Workshop on Automated Specification and Verification of Web Systems, WWV 2006 (Cyprus);
 - ◊ 8th International Conference on Practical Applications of Declarative Languages 2006 (Charleston, SC);
 - ◊ 2nd International Conference Distributed Computing and Internet Technology (Software Track Chair), 2005.

- ◇ 2005 ACM Symposium on Dynamic Languages, San Diego, USA.
- ◇ 2005 Logic Programming Synthesis and Transformation (LOPSTR), 2005, London, UK.
- ◇ 2005 Principles and Practice of Declarative Programming (PPDP), Lisbon, 2005.
- ◇ 1st International Conference Distributed Computing and Internet Technology (Software Track), 2004.
- ◇ 6th International Conference on Practical Applications of Declarative Languages 2003 (Dallas, TX);
- ◇ 5th International Conference on Practical Applications of Declarative Languages 2002 (Portland, OR);
- ◇ 13th Euromicro Workshop on Parallel and Distributed Processing, 2004.
- ◇ 20th International Conference on Logic Programming, 2002, Copenhagen, Denmark.
- ◇ 8th International Conference on Computers Helping People with Special Needs (ICCHP), 2004,
- ◇ 2004 Logic Programming Synthesis and Transformation (LOPSTR), 2004, Verona, Italy.
- ◇ 11th Portuguese Conference on Artificial Intelligence (EPIA'03).
- ◇ 2003 Logic Programming Synthesis and Transformation (LOPSTR), 2003, Uppsala, Sweden.
- ◇ ACM Workshop on Partial Evaluation and Semantics based Program Manipulation. 2003.
- ◇ 8th International Conference on Computers Helping People with Special Needs (ICCHP), 2002, Linz, Austria.
- ◇ 4th International Conference on Practical Applications of Declarative Languages 2002 (Portland, OR);
- ◇ 18th International Conference on Logic Programming, 2002, Copenhagen, Denmark.
- ◇ IEEE International Conference on Tools for AI 2001.
- ◇ 9th Euromicro Workshop on Parallel and Distributed Processing, 2001.
- ◇ Functional and Logic Programming Systems (FLOPS), 2001 (Japan).
- ◇ International Static Analysis Symposium 1999 (Venice);
- ◇ International Conference on Logic Programming 1999 (Las Cruces, NM);
- ◇ International Conference on Practical Applications of Constraints and Logic Programming 2000 (London);
- ◇ Practical Applications of Declarative Languages 2000 (Boston, MA);
- ◇ Practical Applications of Declarative Languages 1999 (San Antonio, TX);
- ◇ International Conference on Practical Applications of Constraints and Logic Programming 1999 (London);
- ◇ Hungarian-Austrian Workshop on Distributed and Parallel Systems, Hungary, July 2000.
- ◇ Brazilian Symposium on Computer Architecture and High Performance Comput-

- ing 1999 (Natal, Brazil);
- ◇ 8th Euromicro Workshop on Parallel and Distributed Processing 2000 (Rhodos, Greece);
- ◇ International Conference on Practical Applications of Prolog 1998 (London);
- ◇ International Logic Programming Symposium 1997 (Stony Brook, NY);
- ◇ International Conference and Symposium on Logic Programming Bonn 1996 (Bonn, Germany);
- ◇ International Logic Programming Symposium 1994 (Ithaca, NY);
- ◇ International Logic Programming Symposium 1993 (Vancouver, BC);
- ◇ National Science Foundation/ICOT (Institute for Fifth Generation Computer Technology, Japan) Workshop on Parallel Processing 1994 (Eugene, OR);
- ◇ International Conference on Logic Programming 1993 (Budapest, Hungary).
- **Invited Panelist:**
 - ◇ Workshop on Declarative Languages for Multicore Architectures, Jan 15, Charleston, SC. Panel on Lessons from the Past and What it Means for Multicores.
 - ◇ International Conference on Logic Programming. Mumbai, India, 2003. Panel: Teaching Logic Programming in the Class Room.
 - ◇ International Conference on Logic Programming. Cyprus. 2001. Panel: Future Challenges in Logic Programming.
 - ◇ IEEE Conf. on High Assurance Software Engineering. 2000. Panel: Do formal methods really belong in the toolbox of a practicing engineer?
 - ◇ NSF, Proposal Evaluation for Research Instrumentation Program, 1998.
 - ◇ Discussion Panel on Strategic Directions for Logic Programming Research, 1997 Joint Conference on Declarative Languages (Grado, Italy, June 1997);
 - ◇ Discussion Panel on “Future Directions in Parallel Logic Programming Research” in Workshop on Parallel and Distributed Logic Programming (Washington DC., 1992).
- **Session Chair:**
 - ◇ International Conference on Practical Aspects of Declarative Languages 1999-2006, 2008;
 - ◇ International Conference on Logic Programming 2004;
 - ◇ International Conference on Logic Programming 1999;
 - ◇ Joint International Conference and Symposium on Logic Programming 1996;
 - ◇ International Logic Programming Symposium 1994;
 - ◇ International Conference on Logic Programming 1993 (Budapest, Hungary).
- **Panel Organizer and Chair:**
 - ◇ International Conference on Logic Programming 1993 (Budapest, Hungary);
 - ◇ Practical Aspects of Declarative Languages 1999.
- **Guest Editor:**
 - ◇ Special issue of the Journal of Logic Programming on High Performance Implementations of Prolog, 1996 (with Mats Carlsson of Swedish Institute of Computer Science);

- ◇ Special issue of the Journal of Functional and Logic Programming, MIT Press (with E. Pontelli and V. Santos Costa);
- ◇ Volume on “Parallel and Implementation Technologies,” Nova Science Publishers, 1999.
- **Consultant:**
 - ◇ Logic Programming Expert (to Interoperate LLC).
 - ◇ Project TransBraille (to Logical Software Solutions).
 - ◇ Bioinformatics Project (to New Mexico State University).
 - ◇ Project Melodia (at the University of Oporto, Portugal, funded by the Portuguese Government);
 - ◇ Project Appelo (at the Federal University of Rio de Janeiro, Brazil, funded by the Brazilian Government).
- **Workshop Organizer:**
 - ◇ ALPSWS Workshop in ICLP’07, Porto, Portugal.
 - ◇ Parallel Logic Programming Workshop, Las Cruces, NM, 1993 (funded by NATO);
 - ◇ Post-conference Workshop on Parallel Logic Programming, International Logic Programming Symposium (Oct, 1991, San Diego, CA),
 - ◇ Post-conference Workshop on Parallel Logic Programming, International Logic Programming Symposium (Nov. 1994, Ithaca, NY);
 - ◇ Pre-conference Workshop on Parallel Logic Programming, International Conference on Logic Programming (June, 1991, Paris, France; Proceedings published by Springer Verlag, Lecture Notes in Computer Science 569).
 - ◇ Birds-of-a-feather session on “Logic Programming as an Introductory Programming Paradigm” (report on the session appears in Association for Logic Programming Quarterly Newsletter Feb. 1993).
- **Thesis examiner** for a Ph.D. thesis at the
 - ◇ University of Melbourne, Australia.
 - ◇ SUNY Stony Brook (3 theses).
 - ◇ University of Hyderabad, India.
 - ◇ University of Cairo, Egypt.
- **Reviewing Activities:** Reviewed articles for:
 - Parallel Processing Conferences
 - ◇ International Conference on Parallel Processing (ICPP)
 - ◇ International Parallel Processing Symposium (IPSS)
 - ◇ Symposium on Parallel and Distributed Processing (SPDP),
 - ◇ Parallel Architecture and Languages Europe (PARLE),
 - ◇ International Supercomputing Conference
 - Logic Programming Conferences:
 - ◇ Logic Programming Synthesis and Transformation (LOPSTR)
 - ◇ Practical Aspects of Declarative Languages Symposium
 - ◇ International Conference on Logic Programming (ICLP)
 - ◇ North American Conference on Logic Programming (NACLP)

- ◊ International Logic Programming Symposium (ILPS)
- ◊ Programming Language Implementation and Logic Programming (PLILP),
- ◊ Principles and Practice of Declarative Programming (PPDP).

Other Conferences:

- ◊ Principles of Programming Languages,
- ◊ IEEE Realtime Systems Symposium
- ◊ IEEE Tools in Artificial Intelligence,
- ◊ Portuguese conference on AI

Journals:

- ◊ Journal of Logic Programming
- ◊ ACM Transactions on Programming Languages and Systems (TOPLAS)
- ◊ Software Practice and Experience
- ◊ Computer Journal
- ◊ IEEE Computer
- ◊ Journal of Computer and System Sciences
- ◊ IEEE Parallel and Distributed Technology
- ◊ IEEE Transactions on Parallel and Distributed Systems
- ◊ IEEE Transactions on Mobile Computing
- ◊ Information Processing Letters
- ◊ Science of Computer Programming
- ◊ Journal of Computing and Information Technology

Funding Agencies:

- ◊ US National Science Foundation
- ◊ Austrian Science Foundation
- ◊ Irish National Science Foundation.
- ◊ Newzealand National Science Foundation.
- ◊ Belgian National Science Foundation.
- **Participant:** the 1987 Summer School on Parallel Processing (Argonne National Laboratory) [25 applicants selected out of 125].

PROFESSIONAL AFFILIATIONS

- Member, Association for Computing Machinery (ACM), since 1988.
- Member, Association for Logic Programming (ALP), since 1988.
- Member, ACM Special Interest Group on Prog. Lang. (SIGPLAN), since 1988.
- Member, ACM Special Interest Group on Software Engineering (SIGSOFT), since 1998.

PAST/PRESENT COLLABORATORS

- Dr. Arlin Stoltzfus (Univ. of Maryland Bioinformatics Inst.)

- Ms. Susan Osterhaus (Texas School for Blind and Visually Impaired, Austin, TX).
- Dr. Klaus Miesenberger (University of Linz, Austria).
- Dr. Dominique Archambault (University of Paris VI, France).
- Dr. Donal Fitzpatrick (University of Dublin, Ireland).
- Dr. Art Karshmer (Univ. of San Francisco, CA)
- Dr. Ken Bowen (Advanced Logic Systems, Newton, MA)
- Dr. Khayri Ali (Swedish Institute of Computer Science, Sweden)
- Dr. Tony Beaumont (University of Bristol, UK)
- Dr. Mats Carlsson (Swedish Institute of Computer Science, Sweden)
- Dr. Doug Gillan (New Mexico State Univ., Psychology)
- Dr. Neil Jones (University of Copenhagen, Denmark)
- Dr. Michael Leuschel (Southampton University, UK)
- Dr. Manuel Hermenegildo (Politecnica de Madrid, Spain)
- Dr. Brook Milligan (New Mexico State Univ., Biology)
- Dr. Manuel Carro (Politecnica de Madrid, Spain)
- Dr. Bharat Jayaraman (SUNY-Buffalo, USA)
- Dr. Feliks Kluźniak (University of Warsaw, Poland)
- Dr. Vitor Santos Costa (University da Oporto, Portugal)
- Dr. David H. D. Warren (University of Bristol, UK)
- Dr. Rong Yang (University of Bristol, UK)
- Dr. Kish Shen (University of Manchester, UK)
- Dr. Inês Dutra (Universidade Federal do Rio de Janeiro, Brazil)
- Dr. Claudio Geyer (Universidade Federal do Rio Grande del Sul, Brazil)
- Dr. Janyce Wiebe (University of Pittsburgh)
- Francesco Pulvirenti (University of Padova, Italy)

STUDENTS SUPERVISED

Ph.D.

- ◇ **Enrico Pontelli**, graduated Aug. '97, Ph.D. Thesis: Design, Analysis, and Implementation of Parallel Logic Programming Systems (employed as Professor of Computer Science at NMSU; awarded **NSF CAREER** grant);
- ◇ **Haifeng Guo** (Ph.D. Thesis: Distributed and Tabled Logic Programming System. Oct. 2000 (currently Assistant Professor, University of Nebraska at Omaha).
- ◇ **Luke Simon** (Ph.D. Thesis: Co-Inductive Logic Programming); August 2006 (currently Senior Programmer, Metalect Corp).
- ◇ **Ajay Mallya** (Ph.D. Thesis: Deductive Multi-valued Model Checking); August 2006 (currently Senior Programmer, Amazon.com).

- ◇ **Qian Wang** (Ph.D. Thesis: Semantic-based Formal Language Translation); Nov 2007. Senior Programmer, Interoperate LLC (start-up based on his thesis research).
- ◇ **Ajay Bansal** (Ph.D. Thesis: Next Generation Logic Programming Systems) Nov 2007. Post-Doc Fellow, Georgetown Computer Science Dept.
- ◇ **Srividya Kona** (Ph.D. Thesis: Automated Discovery and Composition of Web Services); Nov 2007. Post-Doc Fellow, Georgetown Computer Science Dept.
- ◇ **Michael Nichols** (Ph.D. Thesis: Voice-commanded Scripting Languages for Programming Navigation Strategies On-the-fly). Expected Dec. 08.
- ◇ **Richard Min** (Ph.D. Thesis: Predicate Answer Set Programming); Apr 2009.
- ◇ **Brian De Vries** (Ph.D. Thesis: Software Verification); Expected in 2010.

M.S. Savio Monteiro (expected May'09), Abhilash Tiwari (expected Dec'08), Shrirang Khisti (VMWare), Parag Doshi (Yahoo), Bharathi Boyareddigari (Startup), Aanchal Jain (Tektronix), Siddharth Chitnis (Qualcomm), Ramya Reguramalingam (Amazon.com), Sriram Sunderraman (Qualcomm), Madhu Yennamani (Novomatic), Ramakrishnan Venkitaraman (QualComm), Kunal Patel (Network Inference), Vinay Ahuja (Intelligenxia), Hemamber Reddy (Metalect) Narayan Annamalai (Intervoice), X. Zhou (Sabre), C. Cheng (Cadence Design), N. Datta (Synopsis, Inc.), H. Guo (NSF Postdoc fellow, SUNY Stonybrook), S. Akhter (Intel), F. Bassetti (Los Alamos), J. Mendez (Texas Utilities), J. Bang (Ph.D. student at Imperial College, London), Rick Vaupel (Lockheed), Haren Babu (Sequent Corp.), Greg Luce (employment info. n/a).

— Also supervised overseas students: Francesco Pulverenti 1997 (then, Masters student at University of Catania, Italy; currently a Ph.D. student at Univ. of Padova), Paolo Frigo 1996 (Ph.D. student at University of Siena, Italy).

TECHNOLOGY TRANSFER & CONTRACTS

1. A Semantics-based Translator for WinRunner TSL. Technology Transfer Agreement with Inetroperate LLC, a start-up. 2007.
2. Development of a Universal Services Description Language (USDL). Technology Transfer Agreement with Metalect, Inc.
3. Technology transfer agreement with ALS, Inc., for building a parallel logic programming system based on the ALS (constraint) logic programming system. (with E. Pontelli, H-F. Guo, K. Villaverde)
4. Contract with College of Arts & Sciences, NMSU, to design, implement, and install, a logic programming based system for automated checking of graduation requirements (degree audit). (with Arthur Karshmer). 1998-1999.

SOFTWARE SYSTEMS DEVELOPED

1. TSL2Silk: A complete translation system for translating Winrunner TSL scripts to 4Test Scripts (licensed to a start-up).
2. Course Scheduler: A Class Scheduling system for scheduling courses in the Engineering School at UTD (in-use within UT Dallas).

3. Nemeth to Latex Backtranslator: A system for converting Nemeth Math Braille document to Latex (technology used by Logical Software Solutions to develop a product).
4. TA Scheduler: A resource allocation system for matching teaching assistants to courses based on skills, instructor preferences, etc (in-use within UT Dallas).
5. SAVIIN: A system for helping blind individuals navigate a building using RFID technology.
6. VoxBoox: A system for aurally navigating books published on the Internet using voice and audio.
7. Dynamic VXML Navigator: A system for aurally navigating voice/audio documents.
8. Knowledgesheet: A Spread-sheet based tool for solving constraint satisfaction problems.
9. Executable RDF/RDQL: A semantic web inference system for executing RDQL queries on RDF coded data.
10. HTML/VXML Transcoder: A system for automatically translating HTML to VoiceXML for aural access.
11. ACE: A High Performance Parallel Prolog System implemented on top of SICStus Prolog
12. VACE: A tool for visualizing and-or parallel execution of logic programs.
13. PALS: Parallel ALS, a distributed logic programming system based on the commercial ALS Prolog system.
14. TALS: Tabled ALS, a tabled logic programming system based on the commercial ALS Prolog system.
15. An Interpreter for EqL: EqL is an equational language.

PUBLICATIONS

Refereed Journal Publications:¹

1. S. Kona, A. Bansal, G. Gupta. USDL: A Service-Semantics Description Language for Automatic Service Discovery and Composition. To appear in Journal of Web Services Research. Jan 2009.
2. H-F Guo, G. Gupta. Dynamic Reordering of Alternatives for Definite Logic Programs Computer Languages, Systems and Structures (formerly known as “Computer Languages”), Elsevier, to appear.
3. H-F. Guo, G. Gupta. Simplifying Dynamic Programming via Mode-directed Tabling. Software Practice and Experience. 38(1): 75-94 (2008). Jan 2008.

¹All invited papers went through the regular reviewing process of the journal they appeared in.

4. E. Pontelli, K. Villaverde, H. Guo, G. Gupta. PALS: A Scalable Parallel Logic Programming System. *Journal of Theory and Practice of Logic Programming*. Vol 7, No. 6, Nov 2007. pp. 633-696.
5. E. Pontelli, K. Villaverde, H. Guo, G. Gupta. Stack Splitting: a Technique for Efficient Exploitation of Search Parallelism on Share-nothing Platforms. *Journal of Parallel and Distributed Computing*. 2006. pp. 1267-1293.
6. E. Pontelli, D. Ranjan, G. Gupta, B. Milligan. Design and Implementation of a Domain Specific Language for Phylogenetic Inference. *Journal of Bioinformatic and Computational Biology*, 1(2):2003. pp. 201-230.
7. E. Pontelli, D. Gillan, G. Gupta, A. Karshmer, E. Saad, W. Xiong. Intelligent non-visual navigation of complex HTML structure. *International Journal: Universal Access in the Information Society*. Vol 2, No. 1, Nov. 2002.
8. F. Harary, G. Gupta, "A Constraint Logic Programming Approach for Generating All Perfect Matchings," *Applied Mathematics Letters*. 2002.
9. G. Gupta, E. Pontelli, K. Ali, M. Carlsson, M. Hermenegildo, Parallel Execution of Prolog Programs: A Survey. In *ACM Transactions on Programming Languages and Systems*, Vol 23, No. 4, pp. 472-602.
10. G. Gupta and E. Pontelli. Optimization Schemas for Parallel Implementation of Non-deterministic Languages. In *Software Practice and Experience* Vol 31, pp. 1143-1181. 2001.
11. E. Pontelli and G. Gupta. Backtracking in Independent And-Parallel Implementations of Non-Deterministic Languages. In *IEEE Trans. on Parallel and Distributed Computing*, 12(11):1169-1189, Nov. 2001.
12. D. Ranjan, E. Pontelli, L. Longpre, and G. Gupta. The Temporal Precedence Problem. In *Algorithmica*, Vol 28, No. 3, pp. 288-306. Nov. '00.
13. D. Ranjan, E. Pontelli, G. Gupta. "Data Structures for Order-sensitive Predicates in Parallel Non-deterministic Languages. *Acta Informatica*. 37(1): 21-43 (2000).
14. E. Pontelli, D. Ranjan, G. Gupta. "Complexity of Late-binding in Dynamic Object-Oriented Languages," In *Journal of Functional and Logic Programming*, MIT Press, Special Issue #2, 1999.
15. D. Ranjan, E. Pontelli, and G. Gupta. "On the Complexity of Or-parallelism," In *New Generation Computing: An International Journal* Vol. 17, No. 3, May 1999.
16. E. Pontelli and G. Gupta. "Extended Dynamic Dependent And-parallelism," *Journal of Functional and Logic Programming*, Special Issue #1, 1999, MIT Press.
17. A. Karshmer, G. Gupta, et al. "Reading and Writing Mathematics: The MAVIS Project," In *Behavior and Information Technology*, **invited paper**, 1999 18(1):2-10.
18. D. Ranjan, E. Pontelli, G. Gupta. Efficient Algorithms for the Temporal Precedence Problems. *Information Processing Letters*. 68(2):71-78, 1998.

19. F. Harary and G. Gupta, "On Dynamic Graph Models." In *Computer and Mathematical Modeling*, 25(7):79-87, 1997.
20. E. Pontelli and G. Gupta, "Parallel Symbolic Computation with ACE," **invited paper**, In *Annals of Artificial Intelligence and Mathematics*, 21 (1997) 359-395, Dec. '97.
21. E. Pontelli, G. Gupta, D. Tang, M. Hermenegildo, M. Carro, "Improving the Efficiency of Non-deterministic Independent And-parallel Logic Programming Systems," **invited paper**, *Journal of Computer Languages*, Vol. 22, No. 2-3, pp. 115-142, Oct. 1996.
22. D. Tang and G. Gupta, "A Parallel Dynamic Programming Algorithm," *Journal of Computers and Mathematics with Applications*, Pergamon Press Vol 30, No. 8, pp. 65-74, 1995.
23. G. Gupta, V. Santos Costa, "Cuts and Side-effects in And-Or Parallel Prolog," *Journal of Logic Programming*, Vol 27(1), April 96, 45-71.
24. G. Gupta and V. Santos Costa, "Optimal Implementation of And-Or Parallel Prolog," **invited paper** (selected papers from PARLE'92: Parallel Architectures and Languages Europe), *Journal of Future Generation Computer Systems*, Vol 10, No. 1 pp. 71-92, Elsevier Science Publishers, Apr. 1994.
25. G. Gupta, M. Hermenegildo, V. Santos Costa, "And-Or Parallel Prolog: A Recomputation Based Approach," **invited paper** (selected papers from International conference on Fifth Generation Computer Systems 1992), *New Generation Computing: An International Journal*, Vol. 11 (3,4), June 1993, pp. 298-321.
26. G. Gupta and B. Jayaraman "AO-WAM : A WAM Extension for Compiled And-Or Parallelism," *Journal of Logic Programming*, Vol. 17, No. 1, Oct. 1993, pp. 59-89.
27. G. Gupta and B. Jayaraman "Analysis of Or-parallel Execution Models," *ACM Transactions On Programming Languages and Systems (ACM TOPLAS)*, Vol 15, No. 4, September 1993, pp. 659-680.
28. G. Gupta, "Dynamic Parallel Evaluation of Cross-product Sets," *Information Processing Letters* Vol. 44, No. 5 (1992) 273-280.
29. B. Jayaraman and G. Gupta, "EqL : The Language and its Implementation," *IEEE Transactions on Software Engineering*, Vol. 15, No. 6, June, 1989, pp. 771-780.

Books and Compendia

30. Maurizio Gabbrielli, G. Gupta (editors), "21st International Conference on Logic Programming," Springer Verlag LNCS. 2005.
31. G. Gupta (editor), "Practical Aspects of Declarative Languages," Springer Verlag, Lecture Notes in Computer Science 1551. Jan. 1999.
32. V. Santos Costa, E. Pontelli, G. Gupta (editors), "Implementation of (Constraint) Logic Programming Systems," Special Issue, *Journal of Functional and Logic Programming*, Special Issue #1, 1999, MIT Press, May '99.

33. V. Santos Costa, E. Pontelli, G. Gupta (editors), "Implementation and Constraint Technologies," Nova Science Publishers (Commack, NY), 1999.
34. G. Gupta and Mats Carlsson (editors), "High Performance Implementations of Logic Programming Systems," Special Issue, Journal of Logic Programming, Vol 29(1-3), Nov. 96.
35. G. Gupta, "Multiprocessor Execution of Logic Programs," Kluwer Academic Publishers, Norwell, MA, Oct. 1994.
36. Tony Beaumont, G. Gupta (editors), "Proceedings of the ICLP '91 Pre-conference workshop on Parallel Execution of Logic Programs," Lecture Notes in Computer Science 569, Springer Verlag, Dec. 1991.

Invited Publications

37. G. Gupta, A. Bansal, R. Min, L. Simon, A. Mallya. Coinductive Logic Programming and its Applications. In *Proc. International Conference on Logic Programming 2007*. Springer Verlag LNCS 4670. pp 27-44.
38. E. Pontelli, A. Karhsmer, G. Gupta. Mathematics and Accessibility: a Survey. In *Universal Access Handbook*. Constantine Stephanidis, Editor. 2008. To appear.
39. G. Gupta, E. Pontelli. "Specification, Implementation, and Verification of Domain Specific Languages: A Logic Programming-based Approach," Advances in Logic Programming, Essays in honor of 60th birthday of Robert Kowalski. Lecture Notes in Computer Science. Springer Verlag LNAI 2407, pp. 211-239.
40. G. Gupta, E. Pontelli. "ACE: A High Performance Parallel Prolog System," Proceedings of Joint Conference on Declarative Programming. June 1997, pp. 25-31.
41. G. Gupta "Horn Logic Denotations and Their Applications," *The Logic Programming Paradigm: A 25 year perspective* Springer Verlag. pp. 127-160. (Proceedings of Workshop on Current trends and Future Directions in Logic Programming Research, April '98).
42. A. Karshmer, E. Pontelli, G. Gupta. Non-visual WWW browsing. *HCI International Conference*, 1999.
43. G. Gupta. Reliable Software Construction: A Logic Programming Based Methodology. High Assurance Systems Engg. Conf. 2000, Albuquerque, NM.
44. G. Gupta, V. Santos Costa, E. Pontelli. Shared Paged Binding Array: A Universal Data-structure for Parallel Logic Programming. In *Proc. NSF/ICOT workshop on Parallel Logic Programming*, T. Chikayama and E. Tick (Eds). University of Oregon CIS-TR-94-04. Mar. 1994.

Refereed Conference Publications

45. B. Devries, G. Gupta, K. Hamlen, S. Moore, M. Sridhar. ActionScript Bytecode Verification With Co-Logic Programming. In *Proc. Programming Languages and Security*, 2009. ACM Press.

46. R Min, A Bansal, G Gupta. Towards Predicate Answer Set Programming via Coinductive Logic Programming, in Proc. of 5th IFIP Conference on Artificial Intelligence Applications and Innovations (AIAI), 2009. Greece. To appear.
47. R Min, G Gupta. Coinductive Logic Programming and its Application to Boolean SAT. Florida AI Symposium (FLAIRS'09). AAAI press. To appear.
48. S. Kona, A. Bansal, G. Gupta, B. Blake. Generalized Service Composition. In *Proc. International Conference on Web Services*. 2008. IEEE Press. pp. 1-8.
49. L. Simon, A. Bansal, A. Mallya, G. Gupta. Co-Logic Programming. In *Proc. Int'l Conference on Automata Languages and Programming*. 2007. pp. 472-483, Springer Verlag. LNCS 4596.
50. S. Kona, A. Bansal, G. Gupta. Semantics-based Efficient Service Discovery and Composition. In *Proc. International Conference on Web Services*. 2007. IEEE Press. pp. 150-158.
51. Aanchal Jain, Gopal Gupta. VoxBoox: A System for Automatic Generation of Interactive Talking Books. Proceedings of HCI 2007. pp 329-338. Springer LNCS 4556.
52. D. Gopal, Q. Wang, G. Gupta, S. Chitnis, H. Guo, A. Karshmer. Towards completely automatic Nemeth code to \LaTeX backtranslation. In HCI 2007. pp 309-318. Springer LNCS 4556.
53. L. Simon, A. Mallya, A. Bansal, G. Gupta. Coinductive Logic Programming. In *Proc. Int'l Conference on Logic Programming*. 2006. Springer Verlag LNCS 4079. pp. 330-345.
54. A. Bansal, S. Kona, L. Simon, A. Mallya, G. Gupta, T. Hite. A Universal Service-Semantics Description Language. In *Proc. European Conference on Web Services*. 2005. pp. 1-15.
55. L. Simon, A. Mallya, G. Gupta. $A_{\mathcal{T}}$: A Real Time Action Description Language. In Proc. LOPSTR 2005. Lecture Notes in Computer Science. Springer Verlag. LNCS 3901, pp. 44-60.
56. A. Bansal, K. Patel, G. Gupta, B. Raghavachari, J. Staves, D. Harris. Towards Intelligent Services: A Case Study in Chemical Emergency Response. In *International Conference on Web Services*, IEEE Press. Jun 2005. pp. 751-758.
57. L. Simon, A. Mallya, A. Bansal, S. Kona, G. Gupta, T. Hite. Towards a Universal Services Description Language. In *International Conference on Next Generation Web Services Practices*, IEEE Press. Aug 2005. pp. 1-6.
58. H-F Guo, B. Jayaraman, G. Gupta, M. Liu. Optimization with Mode-Directed Preferences. In ACM Conference on Principles and Practice of Declarative Programming. 2005. ACM Press. pp. 242-251.
59. M. Nichols, Q. Wang, G. Gupta. A VoiceXML-based Spoken Scripting Language for Voice-based Web Navigation. In *Human Computer Interaction Conference*, July 2005, Lawrence Erlbaum and Associates. 8 pages.

60. G. Gupta, S. Sunder Raman, M. Nichols. DAWN: Dynamic Aural Web Navigation. In *Human Computer Interaction Conference*, July 2005, Lawrence Erlbaum and Associates. 8 pages.
61. H. Reddy, G. Gupta, A. Karshmer. Dynamic Aural Browsing of MathML Documents with VoiceXML. In *Human Computer Interaction Conference*, July 2005, Lawrence Erlbaum and Associates. 8 pages. **Invited paper.**
62. Qian Wang, G. Gupta. Rapidly Prototyping Implementation Infrastructure of Domain Specific Languages: A Semantics-based Approach. *ACM Symposium on Applied Computing 2005*. ACM Press. pp. 1419-1426.
63. Qian Wang, G. Gupta, M. Leuschel. Towards Provably Correct Code Generation via Horn Logical Continuation Semantics. in *Proc. International Conf. on Practical Aspects of Declarative Languages 2005*. Springer Verlag. LNCS 3350. pp. 98-112. 2005.
64. R. Venkitaraman, G. Gupta. Static Analysis of Code Binaries for Software Reuse. In *Proc. 1st International Conference on Distributed Computing and Internet Technology (ICDCIT 2004)*, Bhubhaneshwar, India. Lecture Notes in Computer Science, Springer Verlag, Dec. 2004. pp. 283-293.
65. R. Venkitaraman, G. Gupta. Static Program Analysis of Embedded Executable Assembly Code. In *Proc. 7th International Conference on Compilers, Architectures, and Synthesis of Embedded Systems (CASES)*. ACM Press. 2004. pp. 157-164.
66. A. Karshmer, G. Gupta, K. Miesenberger, E. Pontelli, H. Guo, et al. UMA: A System for Universal Mathematics Accessibility. In *Proc. ACM International Conference on Assistive Technology*. 2004. pp. 55-62.
67. Hai-Feng Guo, G. Gupta. Simplifying Dynamic Programming via Tabling. In *Proc. Sixth International Conference on Practical Aspects of Declarative Languages*. 2004. pp. 163-177.
68. N. Annamalai, G. Gupta, B. Prabhakaran. An Extensible Translator for translating HTML to VoiceXML. In *Proc. 9th International Conference on Computers Helping People*. Springer LNCS 3118. Paris, France. 2004, pp. 339-346.
69. H. Reddy, N. Annamalai, G. Gupta. Dynamic Navigation of VoiceXML documents. In *Proc. 9th International Conference on Computers Helping People*. Springer LNCS 3118. Paris, France. 2004, pp. 337-354.
70. D. Archambault, D. Fitzpatrick, G. Gupta, A. Karshmer, K. Miesenberger, E. Pontelli: Towards a Universal Maths Conversion Library. In *Proc. 9th International Conference on Computers Helping People*. Springer LNCS 3118. Paris, France. 2004, pp. 664-669
71. Q. Wang, G. Gupta. Provably Correct Code Generation: A Case Study in SCR. 2003 Logic Program Synthesis and Transformation Conference. Uppsala, Sweden.
72. K. Patel, G. Gupta. Semantically Processing the Semantic Web. 3rd International Semantic Web Conference. 2003. Springer LNCS 2870. pp. 80-95.

73. K. Villaverde, E. Pontelli, H-F. Guo, G. Gupta. A Methodology for the Management of Order-sensitive Execution of Non-deterministic Languages on Beowulf Platforms. European Conference on Parallelism, 2003. Springer LNCS 2790. pp. 694-703.
74. N. Annamalai, D. Gopal, G. Gupta, A. Karshmer, H. Guo. INSIGHT: A Comprehensive System for Translating Braille based Mathematical Documents to \LaTeX . In *Proc. 2003 International Conf. on Human Computer Interaction (HCI'03)*, Crete, Greece. pp. 1245-1249.
75. C. T. Son, E. Pontelli, D. Ranjan, B. Milligan, and G. Gupta. An Agent-based Domain Specific Framework for Rapid Prototyping of Applications in Evolutionary Biology. In *Proc. 2003 Declarative Agent Languages and Technologies Workshop*. Springer Verlag, Lecture Notes in Artificial Intelligence. pp. 76-96.
76. E. Pontelli, G. Gupta, D. Ranjan, B. Milligan. Logic Programming and Domain Specific Languages: A Case Study for Phylogenetic Inference Problems. In *Proc. First IEEE Computer Society Bioinformatics Conference*. Aug. 2002. (to appear).
77. A. Karshmer, G. Gupta, D. Gillan. Architecting an Auditory Browser for Navigating Mathematical Expressions. In *Proc. International Conf. on Computers Helping People (ICCHP)*. 2002. Springer Verlag LNCS 2398, pp. 477-486.
78. E. Pontelli, A. Karshmer, G. Gupta, D. Gillan, E. Saad, W. Xiong. Intelligent Non-Visual Navigation of Complex HTML Structures. In *Proc. ACM Conference on Assistive Technology*, ACM Press 2002, to appear.
79. G. Gupta, H-F. Guo, A. Karshmer, E. Pontelli, et al. Semantic-Based Filtering: Logic Programming's Killer App? 4th International Symposium on Practical Aspects of Declarative Languages, LNCS 2257, Springer Verlag, pp. 82-100, Jan. 2002.
80. H-F Guo, G. Gupta. A Simple Technique for Implementing Tabling based on Dynamic Reordering of Alternatives. *Proc. 17th Int'l Conf. on Logic Programming*, Paphos, Cyprus, Springer Verlag LNCS 2237. pp 181-198.
81. K. Villaverde, H. Guo, E. Pontelli, G. Gupta. High Performance (Constraint) Logic Programming on the Beowulf Architecture. *Proc. 17th Int'l Conf. on Logic Programming*, Paphos, Cyprus, Springer Verlag LNCS 2237. pp 27-42.
82. K. Villaverde, H. Guo, E. Pontelli, G. Gupta. Incremental Stack-Splitting Mechanisms for Efficient Parallel Implementation of Search-based AI Systems *Proc. 30th Int'l Conf. on Parallel Processing*, Valencia, Spain. 2001. pp. 55-79.
83. J. R. Iglesias, G. Gupta, E. Pontelli, D. Ranjan, B. Milligan. Interoperability between Bioinformatics Tools: A Logic Programming Approach. In *3rd Symposium on Practical Aspects of Declarative Languages*, 2001. Springer Verlag LNCS 1990. pp. 153-168. 2001.
84. E. Pontelli, W. Xiong, A. Karshmer, G. Gupta. A Domain Specific Language Framework for Non-Visual Browsing of Complex HTML Structures. *Proc. ACM Conference on Assistive Technologies (ASSETS'00)*. Nov. '00.
85. G. Gupta, Building the Tower of Babel: Converting XML to VoiceXML for Accessibility. *Proc. 7th International Conference on Computers Helping People with Special Needs (ICCHP00)*. OCG Press (Austria). pp. 267-272.

86. H-F Guo, G. Gupta, et al. Computer Processing of Nemeth Braille Math Notation. 7th International Conference on Computers Helping People with Special Needs (ICCHP00). OCG Press (Austria). pp. 319-328.
87. L. King, G. Gupta, E. Pontelli. Verification of a Controller for BART: An Approach based on Horn Logic and Denotational Semantics. In *High Integrity Software Systems*. Kluwer Academic Publishers.
88. G. Gupta, S. Akhter. Knowledgesheet: A Graphical Spreadsheet Interface for Interactively Developing A Class of Constraint Programs. In *Proc. Practical Aspects of Declarative Languages*, Lecture Notes in Computer Science 1753, Springer Verlag, 2000, Jan. '00.
89. G. Gupta and E. Pontelli. Stack-splitting: A Simple Technique for Implementing Or-parallelism and And-parallelism on Distributed Machines. In *Proc. 16th International Conference on Logic Programming*, 1999. MIT Press, pp. 290-305.
90. G. Gupta, E. Pontelli. Efficient Techniques for Distributed Implementation of Search-based AI Systems. In *International Conference on Parallel Processing*, 1999 (Aizu, Japan). pp. 319-326.
91. J. Mendez, G. Gupta, A. Karshmer, J. Brown. "NADA: NMSU Advising and Degree Audit System". In *Proc. First International Conference on Practical Applications of Constraint Technologies and Logic Programming*. pp. 181-196, 1999.
92. E. Pontelli, D. Ranjan, G. Gupta. Late-binding in Dynamic Object-Oriented Languages. In *Proc. Programming Languages, Implementation, Logics, and Programs*. Springer Verlag, Lecture Notes in Computer Science 1490. pp. 195-212.
93. G. Gupta, E. Pontelli, R. Felix-Cardenas, A. Lara, "Automatic Derivation of a Parallelizing Compiler," In *Proc. International Conference on Parallel Processing*, IEEE Press, Aug, 1998, pp. 579-586.
94. E. Pontelli, G. Gupta, "Efficient Parallel Implementation of Backtracking in Non-deterministic Languages" In *International Conference on Parallel Processing*, IEEE Press, Aug, 1998, pp. 338-345.
95. E. Pontelli, G. Gupta, J. Wiebe, D. Farwell, "Natural Language Multiprocessing: A Case Study," In *Proc. AAAI '98*, pp. 76-82. July 1998.
96. A. Karshmer, G. Gupta, S. Geiger, C. Weaver. "A Framework for Translation of Braille Nemeth Math to Latex," In *Proc. ACM Conference on Assistive Technologies*, ACM Press, pp. 136-143, Mar. 1998.
97. G. Gupta, E. Pontelli. "A Constraint-based Approach to Specification and Verification of Real-time Systems," In *Proc. IEEE Real-time Symposium*, San Francisco, pp. 230-239. Dec. '97.
98. E. Pontelli and G. Gupta. "A Constraint Logic Framework for Internet Programming," In *Proc. International Conference on Tools with AI*, IEEE Computer Society, 1997.
99. D. Ranjan, E. Pontelli, G. Gupta, "On the Complexity of Parallel Implementation of Logic Programs," In *Foundations of Software Technology and Theoretical Computer Science*, Kharagpur, India, Proceedings in Springer LNCS. 1997.

100. G. Gupta, E. Pontelli, "Extended Dynamic Dependent And-parallel Systems" In *Proc. ACM Conference on Parallel Symbolic Computing*, ACM Press. July 1997.
101. E. Pontelli, G. Gupta, "Implementation Mechanisms for Dependent And-parallelism" In *Proc. International Conference on Logic Programming*, MIT Press, July 1997. pp. 123-137.
102. E. Pontelli, G. Gupta, F. Pulvirenti, A. Ferro, "Automatic Compile-Time Parallelization of Prolog Programs for Dependent And-Parallelism," In *Proc. International Conference on Logic Programming*, MIT Press, July 1997. pp. 108-122.
103. R. Vaupel, E. Pontelli, G. Gupta, "Visualization of And/Or-parallel Execution of Logic Programs," In *Proc. International Conference on Logic Programming*, MIT Press, July 1997. pp. 271-285.
104. J-W Bang, G. Gupta, "A Logic Programming based System for Diagnosing Acid-Base Disorders," In *Proc. International Conference on Innovative Applications of Prolog*, London, Apr. 1997. pp. 110-124.
105. G. Gupta and E. Pontelli, "Optimization Schemas for Non-deterministic Systems and Languages," (Extended Paper). In *Proceedings of the 1997 IEEE on Parallel Processing Symposium*. IEEE Press, Apr '97. pp. 428-435.
106. G. Gupta and E. Pontelli, "Last Alternative Optimization," In *Proceedings of the 1996 IEEE Symposium on Parallel and Distributed Computing*. IEEE Press, pp. 538-541.
107. F. Bassetti, K. Li, A. Malki, E. Pontelli, G. Gupta, "A Logic Programming System for Checking Graduation Requirements," In *Proceedings of International Conference on Innovative Applications of Prolog*, London, England, pp. 1-17.
108. E. Pontelli, G. Gupta, "Nested Parallel Call Optimization" In *Proceedings of the 10th IEEE International Parallel Processing Symposium*, IEEE Press, Waikiki, Hawaii, April '96.
109. E. Pontelli, G. Gupta "Data-parallel Logic Programming in &-ACE" In *Proceedings of the 1995 IEEE Symposium on Parallel and Distributed Computing*. IEEE Press, pp. 424-431, TX, Oct. '95.
110. E. Pontelli, G. Gupta, "On the Duality between Or-parallelism and And-parallelism," In *European Conference on Parallel Processing '95*, Stockholm, Sweden, Springer Verlag Lecture Notes 966, pp. 43-54.
111. E. Pontelli, G. Gupta, D. Tang, "Determinacy Driven Optimization of And-parallel Logic Programming Systems" In *Proc. 1995 International Conference on Logic Programming*, MIT Press, Tokyo, pp. 615-630. June '95.
112. E. Pontelli, G. Gupta, M. Hermenegildo, "&-ACE: A High Performance Parallel Prolog System," In *Proc. 9th International Parallel Processing Symposium*, IEEE Press, 1995, pp. 564-571.
113. T. Dongxing, G. Gupta, "Geometric Techniques for Parallelizing and Scheduling Fortran Do-loops," In *Proc. 7th International Conference on Parallel and Distributed Computing Systems*, 1994, pp. 160-167.

114. G. Gupta, E. Pontelli, M. Hermenegildo, V. Santos Costa, "A Stack-copying Approach to Parallel Execution of Prolog." *Proceedings of the International Conference on Logic Programming '94*, Italy. MIT Press. pp. 93-109.
115. G. Gupta, V. Santos Costa "A Systematic Approach to exploiting Implicit Parallelism in Prolog," In *26th Hawaii International Conference on System Sciences*, Maui Island, Jan., 1993, pages 417-295.
116. G. Gupta, V. Santos Costa "Complete and Efficient Methods for supporting Cuts and Side-effects in And/Or Parallel Prolog," In *Proceedings of IEEE International Symposium on Parallel and Distributed Processing*, IEEE Computer Society Press, pages 288-295, Dec., 1992.
117. G. Gupta, V. Santos Costa "And-Or Parallelism in Full Prolog with Paged Binding Arrays," In *Proceedings of Parallel Architectures and Languages Europe (PARLE)*, Springer Verlag Lecture Notes Computer Science 605, Paris, June 1992, pp. 617-632.
118. G. Gupta, M. Hermenegildo, "Recomputation based Implementations of And-Or Parallel Prolog," In *Proceedings of the International Conference on Fifth Generation Computer Systems (FGCS '92)*, Tokyo, Japan, June '92, pages 770-782,
119. G. Gupta, V. Santos Costa, R. Yang, M. Hermenegildo, "IDIOM: A Model for Integrating Dependent-and, Independent-and and Or-parallelism," In *Proceedings of International Logic Programming Symposium*, MIT Press, 1991, pages 152-166.
120. G. Gupta and B. Jayaraman, "On Criteria for Or-Parallel Execution Models of Logic Programs," In *Proceedings of International Logic Programming Symposium*, MIT Press, Oct. 1990, pp. 604-623.
121. G. Gupta and B. Jayaraman, "Optimizing And-Or Parallel Implementations," In *Proceedings of International Logic Programming Symposium*, MIT Press, Oct. 1990, pp. 737-756.
122. G. Gupta, "A Time-Stamp Based Technique for Parallel Evaluation of Cross-product Set," In *Proceedings of 19th International Conference on Parallel Processing*, St. Charles, Illinois, 1990.
123. G. Gupta and B. Jayaraman, "Compiled And-Or Parallel Execution of Logic Programs," *Proceedings of International Logic Programming Symposium*, MIT Press, Oct. 1989, pp. 332-349.
124. G. Gupta and B. Jayaraman, "A Model for And-Or Parallel Execution of Logic Programs," In *Proceedings of the 18th International Conference on Parallel Processing*, 1989, Vol. II 260-264, St. Charles, Illinois.
125. B. Jayaraman, F.S.K. Silbermann, and G. Gupta, "Equational Programming : A Unifying approach to Functional and Logic programming," In *Proceedings of the International Conference on Computer Languages*, Miami, FL, Oct. 1986. pp. 47-57.

Unrefereed Publications:

126. A. Karshmer, E. Pontelli, G. Gupta. Helping Visually Impaired Students in the Study of Mathematics. *Frontiers in Education Conference*, 1999. FIE '99. 29th Annual , Volume: 2 , 1999 pp 5-10.
127. E. Pontelli, G. Gupta, "Exploiting Maximal Parallelism in Prolog" In *8th International Conference on Parallel and Distributed Systems*, Orlando, FL, pp. 131-136.
128. G. Gupta and M. Hermenegildo, "ACE: And/Or-parallel Copying-based Execution of Logic-programs," In *Proceedings of ICLP '91 Workshop on Parallel Execution of Logic Programs*, Springer Verlag, Lecture Notes in Computer Science 569, Dec. 1991.
129. B. Jayaraman and G. Gupta, "Parallel Execution of an Equational Language," In *Proceedings of the Workshop on Graph Reduction*, Santa Fe, New Mexico, Sept. 1986. Springer-Verlag LNCS No. 279, pp. 370-381.
130. J. Reinfelds, G. Gupta, "Logic Programming as an Introductory Programming Paradigm," *Association of Logic Programming Newsletter*, Vol 6, No. 1, pages 5-7. Feb. 1993.

Published Abstracts

131. Aanchal Jain, Gopal Gupta. VoxBox: A System for Automatic Generation of Interactive Talking Books. *Proceedings of 8th ACM ASSETS conference*. 2006. pp. 275-276.
132. Srividya Kona, Ajay Bansal, Gopal Gupta, Thomas D. Hite, Web Service Discovery and Composition using USDL. p. 65, In *Proc. 8th IEEE International Conference on E-Commerce Technology and The 3rd IEEE International Conference on Enterprise Computing, E-Commerce, and E-Services (CEC/EEE'06)*, 2006.
133. L. Simon, A. Mallya, A. Bansal, G. Gupta. Universal Services Description Language. In *2nd IEEE International Conferences on Web Services*, 2005. 2 pages. IEEE Press. July 2005. pp. 823-824.
134. Hai-Feng Guo, Gopal Gupta. A New Mode Declaration for Tabled Predicates. In *Proc. International Conference on Logic Programming*. Springer LNCS 2916. 2003. pp. 485-486.
135. G. Gupta "Horn Logic Denotations," In *Proc. 1998 Joint International Conference and Symposium on Logic Programming*, MIT Press, pp. 357-358.
136. E. Pontelli, G. Gupta, "Non-determinate Dependent And-parallelism Revisited," In *Proc. Joint International Conf. and Symposium on Logic Programming*, MIT Press, p. 542.
137. D. Tang, E. Pontelli, G. Gupta, M. Carro, "Last Parallel Call Optimization and Fast Backtracking in And-parallel Systems," In *Proc. International Logic Programming Symposium*, MIT Press, 1994.
138. G. Gupta, V. Santos Costa, "Shared Paged Binding Arrays: A Universal Datastructure for Parallel Logic Programming," In *Proc. International Conf. on Logic Programming*, MIT Press, 1995, p. 824.

Unpublished Technical Reports

139. A. Bansal, R. Min, G. Gupta, "Goal-directed Execution of Answer Set Programs." Sep. 2008.
140. R. Min, G. Gupta, "Negation in Coinductive Logic Programming." Oct. 2008.
141. S. Chitnis, M. Yennamani, G. Gupta. "NexSched: An Spreadsheet based Intelligent Interface to solve Constraint Satisfaction Problems." 2006.
142. G. Gupta, "A Parallel Scalable Architecture for Parallel Processing and AI," Dept. of Computer Science, New Mexico State University Technical Report, 1995.
143. G. Gupta and David H. D. Warren, "An Interpreter for the Extended Andorra Model (Preliminary Report)" Technical Report, Department of Computer Science, University of Bristol, 1992.
144. G. Gupta, "Paged Binding Array: Environment Representation in And-Or Parallel Prolog," Technical Report TR-91-24, Department of Computer Science, University of Bristol, Oct. 1991.
145. G. Gupta, A. Nair and M. Palaniappan, "Searching Number Spaces on a Network of Computers," TR 88-055, Dept. of Computer Science, UNC Chapel Hill, Dec. '88. 16 pages.
146. G. Gupta, "An Interpreter for EqL," Master's Thesis, Technical Report 87-037, Dept. of Computer Science, Univ. of North Carolina, Chapel Hill. August '87. 55 pages.
147. B. Jayaraman and G. Gupta, "EqL User's Guide," Technical Report 87-010, Dept. of Computer Science, Univ. of North Carolina, Chapel Hill. June '87. 30 pages.
148. G. Gupta, "An Investigation into the Relative Efficiencies of Supercombinators and Function Graphs," TR 88-054, Dept. of Computer Science, UNC Chapel Hill, Nov. '88. 17 pages.
149. G. Gupta, Neel Madhav, Shashi Shekhar, Raj Prakash, "An Optimizing C Compiler," B. Tech Thesis, I.I.T. Kanpur, India, May 1985. 90 pages.
150. G. Gupta, Shashi Shekhar et. al. "Bit Slice Architectures and Microprogramming," Technical Report, I.I.T., Kanpur, India, Nov., 1984.